

Old dispute rekindled over content of mine's talc

A contentious, 30-year fight with experts

Tuesday, May 30, 2000

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SEATTLE POST-INTELLIGENCER REPORTERS

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The talc used by Crayola and most of America's other crayon makers comes from a century-old mine long embroiled in battles over whether its dusty product contains cancer-causing asbestos.

The mine in upstate New York, owned by R.T. Vanderbilt Co., has been the center of a contentious 30-year-long fight pitting the asbestos and talc industries against physicians and public health experts over just what, precisely, constitutes asbestos.

Last week's [disclosure by the Seattle Post-Intelligencer](#), followed by [ABC News](#) and others, that crayons are contaminated with asbestos fibers has moved the debate back into the spotlight.

Twelve years ago, Vanderbilt and other stone-product companies successfully fought off efforts to regulate sand for children's sandboxes after doctors said it contained asbestos.

The controversy over crayons is eerily similar.

'That's the proof'

John Kelse, Vanderbilt's corporate risk manager, says there is no asbestos in its talc "to the best of our knowledge" and there has never been any asbestos-related disease among the company's workers.

Some physicians who treat the miners and their families disagree.

"The proof of it is Vanderbilt's own workers," says Dr. Philip Landrigan, director of the Center for Children's Health and the Environment at Mount Sinai School of Medicine. "They have been shown to have excess lung cancer, excess asbestosis and excess rates of malignant mesothelioma. That's the proof of the pudding."

"In good conscience I don't know how Vanderbilt can say that their talc doesn't contain asbestiform fibers," Landrigan adds. "They're dancing around with legal definitions. While they're dancing, people are dying."

Dr. Jerrold Abraham, a professor of pathology at New York's Upstate Medical University, not only has studied the Vanderbilt talc, but also the lungs of the people who mine it in biopsies and autopsies.

"Our medical center is the referral center for people from the area where the mines are. We found several cases of mesothelioma in the miners, and we've done studies on what we've found in lungs of the sick miners," says Abraham, who is director of occupational and environmental pathology at State University of New York.



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"Of course we find lots of talc, but there are also significant amounts of asbestiform tremolite.

"There is no doubt in my mind that the Vanderbilt mines are contaminated with asbestos. It just co-exists with the talc they are mining."

He adds: "It's unconscionable for Vanderbilt to sell its talc to Crayola and say it's free of asbestos."

Tremolite is one of six types of asbestos regulated by the federal government. The industry and health officials have argued for years over definitions of the mineral. The industry maintains that some forms of tremolite, which they call "non-asbestiform," don't form true fibers and therefore shouldn't be regulated as asbestos. Some doctors argue that all forms of tremolite can break down into fiberlike particles of a length and width that cause asbestos-related disease.

The amount of asbestos found in the crayons analyzed for the P-I and other organizations are lower by a huge magnitude than the levels to which workers treated by Landrigan and Abraham were exposed. Nevertheless, all the medical and public health experts interviewed said there shouldn't be any asbestos in products that children play with.

What's in Vanderbilt's talc?

Vanderbilt put up a statement on its Web site Thursday that said the Environmental Protection Agency, the Occupational Safety and Health Administration, the Mine Safety and Health Administration and the Consumer Product Safety Commission "have all confirmed that the industrial talc mined in upstate New York does not contain asbestos."

That statement was immediately disputed.

"We did not give the Vanderbilt a clean bill of health," says Russ Rader, CPSC's director of public affairs.

"We were looking at the issue of tremolite in play sand being purchased by consumers and we did not find any asbestiform tremolite in the sand. CPSC did not do anything like inspecting Vanderbilt's plant, its talc or anything like giving the plant a clean bill of health."

The mine safety agency says its responsibility is to test the air the workers breathe for asbestos, not the ore.

Two EPA inspectors in the New York regional office said Thursday that they could think of no reason why EPA would examine the ore from Vanderbilt and suggested that the agency's Washington headquarters be contacted.

A senior EPA spokeswoman in Washington, D.C., said she would "check it out."

Over the weekend, Vanderbilt removed the specific references from its statement, which was changed to read that the absence of asbestos in its talc had been confirmed by "relevant regulatory agencies."

Government-backed analysis of the Vanderbilt mines found asbestos as far back as the 1970s.

Walter McCrone Associates of Chicago examined seven different talc samples from Vanderbilt mines for the federal government in 1975 and reported tremolite asbestos in all.

"The asbestos mineral present . . . is definitely asbestiform by any definition of the word," the report concluded.

A report released in 1977 by the National Institute of Occupational Safety and Health, which examined an increase in asbestos-related disease among Vanderbilt's miners, reported finding tremolite and anthophyllite, the identical fibers found in the P-I's tests of crayons.

Vanderbilt says the government reports mean little.

"There has never been a responsible analysis that showed asbestos in this talc. There have been numerous irresponsible analyses, just numerous," says Vanderbilt's Kelse. "The NIOSH report is ridiculous."

Kelse said he had proof that the scientists doing the government studies changed their minds later and said Vanderbilt talc is asbestos-free. The P-I asked to see the documents, but they were not provided.

'People can file any suit'

"Doesn't it strike you as odd that a little company like Vanderbilt probably would have been sued into oblivion if we really had asbestos the way it was originally presented?" Kelse asks.

Vanderbilt is far from a mom-and-pop operation. Named after its founder, Robert Thurlow Vanderbilt, the company has 620 employees as well as seven wholly-owned subsidiaries operating chemical manufacturing plants in Connecticut and Kentucky, and mining and mineral processing facilities in six states.

And the debate over the dangers of Vanderbilt talc has been fought in courtrooms throughout the country for years, in lawsuits brought on behalf of workers who mined and milled the talc and those in other industries where the talc was used in manufacturing. Some of the suits are still pending.

Some suits allege that the asbestos in the Vanderbilt's talc have caused a variety of diseases -- non-malignant scarring of the lungs, or asbestosis; lung cancer; and mesothelioma, a rare and deadly cancer of the pleural lining closely identified with exposure to asbestos, lawyers say.

"People can file any suit. The issue is, is it real or not?" Kelse says.

Dallas attorney Mark Iola was one of several lawyers handling claims from 1988 to 1992 that workers in tire making plants in California, Oklahoma, Iowa and other states had become ill after working with Vanderbilt talc.

Iola recalls a 1990 case in which he represented four workers with asbestosis from a Los Angeles tire plant where large amounts of talc were used to keep layers of rubber from sticking together as the tires were being manufactured.

"The debate in those cases centered on two points," says Iola. "First, whether the talc from the R.T. Vanderbilt mines contained tremolite and two, whether the tremolite was asbestiform and cancer-causing.

"The jury heard a tremendous amount of technical information on the characterization of the talc and asbestos and rejected the company's claim that it was not asbestos."

Iola said the jury found for the plaintiffs. He added that two of the four plaintiffs later developed mesothelioma and died.

Vanderbilt did not return phone calls about the case and other matters.

What is asbestos?

Asbestos, a word which has been around since Roman times, means a fiber that won't burn.

"Asbestos is not a scientific term at all. It has to do with the commercial use of the product and has nothing to do with health effects. You have to talk about the individual fiber," says Dr. Bruce Case, director of environmental pathology at Montreal's McGill University and one of North America's top researchers in the health effects of asbestos.

The government has ruled that exposure to six different types of asbestos must be regulated because of their potential to cause disease. Two of the six -- tremolite and anthophyllite -- were found in many of the crayons analyzed for the P-I.

Geologists arguing the dangers of asbestos say there are harmful and harmless -- asbestiform and non-asbestiform -- types of each mineral, and they toss words like "shards," "fragments," "bundles," "fibrous" and "non-fibrous" into the debate on whether certain fibers can harm humans.

The argument boils down to a classic fight between form and substance.

Industry geologists argue it's the form -- the original structure of a mineral, like the tremolite in Vanderbilt's ore -- that matters in determining whether to call it asbestos. Physicians and others say it's substance -- the chemical composition, length and width of the fibers -- that matters, because that's what determines what causes disease.

Case and other physicians say the health issues should not get bogged down in semantics.

"There's nothing magic about this. It's very straightforward," says Case. "You can call it asbestiform. You can call it non-asbestiform. You can call it the man on the moon. I don't care what you call it, it's what (the fiber) looks like, how much of it there is, and whether it remains in the lung that determines whether or not it's later going to cause disease."

Dr. Anthony Robbins, the director of NIOSH during some of the government's hottest battles to regulate asbestos, doesn't think the government has done enough to eliminate asbestos hazards when possible.

"Our view is that there is a variety of things that constitute asbestos and we were never convinced that any of them were shown to be safe," Robbins says. "If you have a fiber of a certain length and of a certain diameter get in a certain place in the lung, then one should probably presume that it's dangerous, rather than assume that it's safe until proven dangerous."

According to the Mine Safety and Health Administration, talc, the fine powder from crushed rock, is processed from 19 mines in six states. The powder is used in hundreds of consumer products.

As part of its continuing examination of the hazards of asbestos and the government's spotty record of regulating the lethal fiber, the P-I contracted with two laboratories to analyze 22 off-the-shelf products containing talc. Asbestos was detected in none of the products, except crayons. But physician and geologist Mark Germine says that in repeated testing, he found tremolite asbestos in two consumer items and in the coating of a prescription drug.

Many people believe that there is a government ban in the United States against the manufacture, importation, use and sale of asbestos, as there is in most of Europe.

Not so. In 1989, the U.S. Environmental Protection Agency instituted such a ban, but two years later it was overturned by the courts after a challenge by the U.S. and Canadian asbestos industries.

Once asbestos again became legal, the job of making sure it was used properly was left largely to the industry itself.

In the case of crayons, a federal labeling law defines what hazardous material can be in the products. But actual testing and certification that crayons are "non-toxic" is done by a trade group whose budget comes from the industry it is hired to examine. Government regulators do not double-check the industry's claims of safety.

For example, Vanderbilt provides the crayon makers and other talc customers with a government-required Material Safety Data Sheet listing all potential hazards.

The information that came with its talc "said nothing about any asbestos in it," a Crayola official told the P-I.

The safety data sheets that Crayola issues in turn on the assembled crayons goes further, stating simply that the company uses talc "containing no asbestos fiber."

So, at least in the case of Crayola, the company relied on the word of its talc supplier, Vanderbilt, that the product was safe. The Art and Creative Materials Institute, the trade association which issues the government-required "non-toxic" seal on crayons, says it relied on tests done by its toxicologist. But the toxicologist says he doesn't test the talc for asbestos because the talc supplier says there isn't any.

Landrigan offered his opinion on what crayon makers should do until the debate over their products is resolved:

"My advice to the companies that have done this is admit you were hoodwinked by a producer, pull the product off the market, get points with the public and do the right thing," he said.

A skirmish in a sandbox

Crayons are not the first product aimed at children that the Consumer Product Safety Commission has had to investigate for asbestos.

The dispute over contamination of talc was tossed into CPSC's arena in 1987 when Abraham, a New York occupational pathologist, and Germine, then a third-year medical student from New Jersey, found tremolite fibers in play sand.

"I bought this nice, white play sand for my son," Abraham recalls, "and when I poured it into his sand box I noticed this cloud of dust came up. I wasn't at all thinking of asbestos, but I thought that it was just too much dust for him to breathe."

Abraham, who at the time did analytic work on asbestos and other dust, analyzed the sand.

"I found, to my surprise, when I looked through the microscope. long thin tremolite asbestos fibers."

Both Germine and Abraham asked CPSC to recall play sand.

The CPSC responded by having outside consultants check the sand for tremolite. From there, the battle got messy. Although the labs agreed there was tremolite in the sand, they argued about mineralogical definitions. Some said it met the criteria for cancer-causing fibers. Others said it was so-called "non-asbestiform tremolite," a type that talc producers argue does not cause disease.

Ultimately the CPSC sided with industry, maintaining there was no clear-cut evidence that non-asbestiform tremolite particles have been demonstrated to cause disease.

"The CPSC decided not to take any action because they believed the same industry experts that the tremolite fibers that were found were not harmful," Abraham said. "Now they're running into the same thing again with the crayon makers."

Vanderbilt's Kelse says the concerns on crayon safety may be the same thing as play sand.

"They said it was tremolite asbestos, but it turned out to be tremolite cleavage fragments, which may be the problem (with crayons.)"

The National Stone Association, a trade group for the crushed stone, sand and gravel industry, is still handing out a Vanderbilt brochure produced in the '80s which says that the talc from its New York mine "contains approximately 50 percent tremolite, all of which is the non-asbestiform variety."

Vanderbilt slugs it out

The sand box issue was only a minor skirmish in Vanderbilt's three-decade-long battle to keep tremolite in its talc from being regulated as asbestos. As a result, non-fibrous tremolite, which was originally covered under OSHA's initial asbestos standards in the 1970s, is now specifically excluded from OSHA's rules. It happened in 1994.

Vanderbilt had one big reason to fight -- money.

In a Jan. 31, 1977, letter to Ray Marshall, then secretary of labor, Vanderbilt wrote that OSHA's action "will in all likelihood result in staggering business loss to the R.T. Vanderbilt Co. and directly jeopardize a \$30 million manufacturing facility where 175 employees are employed."

The battle began in the summer of 1973, when NIOSH issued a Health Hazard Evaluation of Fortune Industries in Chelsea, Mich., one of Vanderbilt's customers. The report, according to Public Citizen, a consumer watchdog group, said concentrations of tremolite from Vanderbilt talc used by Fortune exceeded OSHA standards and advised the company to find a replacement for the talc.

Alarmed that its customers would begin looking for substitutes, Vanderbilt waged a campaign to get the tremolite in its talc excluded from the standards.

In 1974, it managed to get a temporary stay of OSHA standards.

But the reprieve didn't last long. Three years later, OSHA reversed itself after a preliminary finding of increased asbestos-related diseases among Vanderbilt miners.

Vanderbilt kept fighting. A decade later, the company again asked for relief from OSHA's newest asbestos standard.

Once again, the Vanderbilt brought in political pressure.

Connecticut Republicans U.S. Sen. Lowell Weicker Jr. and U.S. Rep. Stewart McKinney fired off a letter to Secretary of Labor William Brock on behalf of Vanderbilt, which is based in Norwalk, Conn.

"If these regulations are permitted to go into effect on July 21, 1986, R.T. Vanderbilt Co. Inc., which we have written on behalf of for over ten years, will be forced to shut down," the letter said.

On July 18, 1986, OSHA again reversed its position, granting Vanderbilt a new temporary stay.

The issue was argued for eight more years. More hearings were held, more testimony taken, more pressure from the industry and lawmakers who support it.

Finally, in 1994, OSHA instituted a final asbestos standard that eliminated non-asbestiform tremolite from government regulation.

It was a long, frustrating battle for regulators.

"We believed tremolite should be regulated, provided it meets the definition (of a fiber whose length is at least three times its width)," said John Martonik, then deputy director of health standards for OSHA, in an interview with the P-I in December. "We thought the biological properties were more important in setting the standard than the mineralogical ones."

Vanderbilt's risk manager, Kelse, says the battle was vital to his company.

"For three decades we've been through more grief and aggravation than you'd want to know on all fronts," he says.

"This is an extremely, extremely important issue for us because it deals with the very definition of asbestos."

NIOSH's Robbins said, "OSHA and CPSC get challenged by an army of lawyers, scientists and experts from industry every time they go forward with one of these things, and, I say with some sympathy, that they probably couldn't take on everyone at the same time.

"This one, the talc, probably should have been done."