

VOL LII NO. 168

Perilous Particles Tiny Asbestos Fibers Pose a Health Threat To Workers and Public

Long Exposure Can Result In Lung Disease, Cancer; Industry Seeks Solutions

'The Bodies Are in the Street'

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NEW YORK—At Joseph Marino's gas station on the fringe on Manhattan's Spanish Harlem, the proven method of cleaning an old brake assembly goes like this: Pull off the wheel, aim an air hose at the exposed parts and blow the dust out.

A cloud of brown dust invariably flies right into the mechanics' faces, says Mr. Marino. But it doesn't bother them. "We got masks and everything," Mr. Marino shrugs. "The guys don't use them. What the hell."

What the mechanics don't seem to know—like thousands of other mechanics—is that the brown dust is dangerous. Brake linings are made of asbestos. And if a mechanic breathes in enough dust from the worn-out linings it could eventually kill him.

The lethal quality of tiny, indestructible asbestos fibers that lodge in the lung is well known. Widely publicized studies by Dr. Irving Selikoff of the Mount Sinai School of Medicine lead him to predict that of the roughly 250,000 asbestos industry workers today, about 95,000 will die unnecessarily of occupational cancer. "In the next 10 to 15 years we will enter the asbestos cancer era," says Dr. Selikoff. "This is one of the great disasters of our time."

Hazards for Others, Too

The asbestos industry is well aware of the problem and is taking action to combat it, though critics say the steps aren't as drastic as the situation demands. But asbestos industry workers aren't the only ones who might fall prey to the lung cancers and other diseases caused by the mineral's irritating fibers. It's likely that millions of workers in other industries using asbestos fibers could be affected, as well as ordinary people who have come into contact with asbestos in the atmosphere.

Perhaps the most tragic fact is that for those who have already been sufficiently exposed, changes in procedures and standards of asbestos use—including a new act announced yesterday by the Department of Labor—are meaningless. It takes as many as 40 years after the first exposure for the related diseases to appear. Controls that will now be instituted have an effect, but not for decades.

Harry Bailey is one man who isn't likely to find much solace in the new standards. Mr. Bailey isn't an asbestos worker. He's a bricklayer in a Mobil Oil Corp. refinery along the Delaware River in Paulsboro, N.J. He has been working at the plant for 33 years, and every year he has gone to the company medical department for a chest X ray.

"They never said there was anything wrong with me," says 54-year-old Mr. Bailey, and indeed he has thus far developed no outward symptoms. But a few months ago he and 18 other workers from the refinery went to Mount Sinai for an examination, and every one of them proved to have scarred lungs—a sign of asbestosis, a nonmalignant lung disease. (Mobil has refused to release his medical records to the New York doctors, Mr. Bailey says. The company declines to comment on the matter.)

First Scarring, Then Complications

Asbestosis begins with X-ray evidence of scarring like that found in Mr. Bailey's lungs. As the disease progresses, the lungs stiffen and breathing becomes difficult. The heart has to work harder and can become enlarged. Ultimately, death may be caused by heart attack or suffocation.

The mineral can also cause lung cancer—in fact asbestos can cause cancer just about anywhere in the body if particles are somehow ingested. The ability of the sharp, tiny particles to penetrate the lung once breathed in has produced a high incidence of cancer in the membrane surrounding the lung, a disease called mesothelioma. In the general populace, it causes one in 10,000 deaths. Of 632 asbestos workers being studied by Dr. Selikoff, 50 have died of cancer.

The Mobil Refinery, where Mr. Bailey works, like all high-heat factories in the oil and chemical industries, uses asbestos for insulation. Mr. Bailey works with insulation workers inside the furnaces, ripping out soft brick. "There's asbestos and brick dust and a lot of sulphur, too," he says. "We complained about the dust and dirt. Nothing is done to keep it down. The fans make it worse, and you can't wet it because of the heat in the bricks. The company bought new respirators, but under the conditions they clog in 15 minutes."

In the asbestos cutting rooms he adds, "there aren't any windows or doors. The windows are closed. And when the insulation workers saw asbestos sheets outside the room, or mix cement in a wheelbarrow, 'anybody can get the dust.'"

Company Disagrees

Mobil disagrees with the description of working conditions. In response to a query, the company issued this statement: "We have no problems at the Paulsboro refinery concerning the use of materials containing asbestos. We use very little of such material, and what we do use is used under strictly controlled conditions. Recently the Occupational Safety and Health Administration carried out an extensive and thorough inspection of the entire Paulsboro refinery. No violations were found in the plant's handling of asbestos materials."

Mr. Bailey's union, the Oil, Chemical and Atomic Workers, is protesting that inspection. Steven Wodka, a union health and safety specialist, says little attention was paid to health violations. And he complains that after a week of accompanying the inspectors, the company inexplicably "had me kicked out of the plant." Mobil declines comment on Mr. Wodka's charge.

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Perilous Particles: Tiny Fibers Of Asbestos Pose a Health Threat

Oil refineries are by no means the only places where asbestos turns up. The versatile substance is a fireproof binder and insulator in thousands of products, including such things as plastics, shingles, paper and pipes. In most of these, the asbestos is harmless to users. But, depending on how it's added to the products, asbestos can pose a threat to workers in the factories where the products are made.

Until six months ago, for instance, asbestos was being used as an antileak ingredient in Prestone antifreeze, made by Union Carbide Corp. At a Carteret, N.J., plant, run for Union Carbide by General American Transportation, the asbestos would arrive in paper sacks. Workers would cut the bags open with knives and feed the powdery white asbestos into tanks of antifreeze, says James Irving, a fire and safety engineer who has worked in the plant for 22 years.

"They'd wear face masks, but no protective clothing," Mr. Irving says, "and the blowers in the room where they worked would send the dust out to where others were working. Then they'd pile up the bags outside the building and a crew would pick them up and throw them onto the truck, raising a big cloud of dust."

Asbestos was removed from the Prestone formula late last year. Mr. Irving says the change took place after the Oil, Chemical and Atomic workers made an issue of it. Union Carbide denies that. The decision, says Herbert J. Hannigan, the company's technical manager of auto products, was based on marketing considerations and "had nothing to do with health."

Asbestos also can pose hazards to the ultimate consumers of certain products. Bits of asbestos used in filters for beverage making have been found in wine and beer, for instance, and could be dangerous if swallowed. The use of such filters in beverage making seems to have been curtailed, but knowledge of the hazard appears to have had little effect elsewhere, even in medical circles. Asbestos, says a soon-to-be-published study, is being used in some hospitals as a filter for intravenously-fed liquids, giving the particles an entry into the blood stream.

The use of asbestos in fireproof textiles is common. Once in a while, asbestos fiber even finds its way into ordinary fabrics. Dr. William Nicholson, an associate of Dr. Selikoff at Mount Sinai, has a girl's charcoal-colored winter coat with red trim hanging in one of his laboratories. It's one of more than 200,000 imported coats made with 8% asbestos fiber sold two years ago. Some of them are presumably still being worn. "Give that coat a shake," says Dr. Nicholson, "and you get dust levels as high as in an asbestos factory."

Asbestos workers in the construction industry are perhaps the most sensitive of all workers to the asbestos hazard. It was the construction industry, which uses two-thirds of all asbestos products, that was the target of the first wave of anti-asbestos publicity more than four years ago. At least four cities—New York, Boston, Chicago and San Francisco—have since developed, though there's some question being raised about their safety, too.

Afraid of a Checkup

Among construction workers outside the asbestos trades—virtually all of whom are exposed to asbestos whether they work with it directly or not—concern remains relatively low. Jacob Novak, business manager of the Asbestos Workers Union local in New York, says he has tried without success, for instance, to induce a group of plasterers to have checkups. "Some of these people don't want to face a free X ray because they're afraid of what they might hear," says Mr. Novak, a 43-year veteran of the asbestos trades, who had a non-malignant tumor removed from a lung last winter.

Anxiety in the demolition industry also seems minimal. "We don't have a dust problem in demolition," says Leonard Kapy, vice president of Wrecking Corp. of America, one of the largest demolition companies in the country. "Some people think you can take down a building without dust," he says with a laugh. As for asbestos, Mr. Kapy isn't worried: "I know fellas who have laid asbestos pipe for years, and there's nothing wrong with them." When working in closed quarters, he says, his men use drop cloths and fans, but they don't wear respirators because "they're too hot and they don't work."

Nevertheless, the federal Environmental Protection Agency is preparing regulations expected to be announced this summer that would attempt to impose controls on air pollution from demolition operations. These could include requirements for wetting down the work areas or the removal of all asbestos before a building is toppled. The technical problem of measuring dust levels, however, "could toss out the demolition regulation entirely," says James Krowder, an engineer with the EPA's hazardous pollutants branch.

Setting a standard for asbestos concentrations at work sites has been similarly difficult for the fledgling Occupation Safety and Health Administration, a year-old Department of Labor unit. The reason: nobody knows how much asbestos is dangerous. The asbestos industry, led by Johns-Manville Corp., the largest in the field, has fought for a standard allowing five asbestos fibers per cubic centimeter of air in the factories. But the doctors at Mount Sinai and elsewhere argue that the only true safe level of asbestos pollution would be zero.

A Four-Year Delay

The government's decision yesterday was to impose a five-fiber average, with a maximum concentration in the work area of 10 fibers per cubic centimeter at any time. In 1976, the new regulations call for a more stringent two-fiber limit, with the four-year delay intended to give the industry a chance to control the problem.

The industry says even a two-fiber limit could hurt it economically. J. B. Jobe, Johns-Manville's executive vice president, said at hearings in March that it would be "socially irresponsible" to adopt such stringent regulations.

The company operates the largest asbestos factory in the country at Manville, N.J., where, according to a recent Mount Sinai study, 40% of the workers die of asbestos-related cancer. Corrective steps being taken already, Johns-

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Manville maintains, are adequate to deal with the problem without causing a cutback in the plant's production, the lifeblood of the New Jersey town of 15,000. At least one asbestos factory, run by a PPG Industries and Corning Glass Works joint venture in Tyler, Texas, closed last February because of "profitability and concern over safety," a spokesman says.

~~Actually, the curbing of asbestos contamination is more an exercise in good housekeeping than careful expenditure. While the cost of stopping pollution at a power plant or smelter might run into the hundreds of millions, the cost of cleaning up an asbestos operation would be closer to a 10th of that magnitude, according to doctors, engineers and union officials.~~

Some of the staples of such an operation, already in use in many plants, are comparatively inexpensive closed plastic bags for mixing cement, vacuum attachments on power saws, drop cloths, dust-suppressant chemicals and battery-powered respirators that blow filtered air into the user's face to ease discomfort.

The new Labor Department standards do, indeed, call for many of these work-practice rules. But while they are unquestionably a needed step toward strict controls, Dr. Selkoff says, he also says he remains pessimistic. "The potential for surveillance is remote," he says, because of the small, underfinanced staffs of federal and state inspectors. A survey recently completed at Mount Sinai of 9,400 asbestos workers around the country, for instance, showed that in 1970 and 1971 there was only one dust count taken in asbestos plants for every 20,000 man-days worked.

And while he says he appreciates the asbestos industry's expressed interest in solving the problem, Dr. Selkoff is hard-pressed to explain the continuing apathy among many workers and managers. "This isn't just another scare," he says. "Some people want to see the bodies in the street before they become concerned. Unfortunately, in this case, the bodies are in the street."

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