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EVIDENCE GROWS ON POSSIBLE LINK OF FIBERGLASS AND LUNG ILLNESSES

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Emerging evidence that fiberglass and other manufactured mineral fibers may cause lung cancer and other diseases is creating a sensitive, potentially far-reaching public health issue.

The evidence, although far from conclusive, is sending tremors through the fiber industry and Federal regulatory agencies. Industry officials, however, insist the evidence to date shows no health problem.

These synthetic fibers, already in wide use as building materials and insulation, in cars, furniture and packaging and for many other applications in a $3 billion-a-year industry, are increasingly being employed as substitutes for asbestos, a known cause of cancer and other serious illness.

Now, recent studies of the health histories of workers who make fiberglass, rock wool and ceramic fibers, as well as tests on laboratory animals, suggest that the substitutes themselves may pose a health threat, albeit one of still unknown and heavily debated dimensions.

The results of the studies, although inconclusive, have caused a flurry of activity in the industry. Manufacturers of the synthetic fibers have undertaken costly new studies on the health effects of their products and are consulting with Federal regulators.

If the fibers prove to be a serious health threat, it could result in loss of sales, expensive damage claims and extensive measures to reduce exposure among workers, and possibly the general public.

The studies that are generating the most concern were based on an examination of mortality records of workers in North America and Europe who produced synthetic mineral fibers and were first exposed to relatively low levels of airborne fibers at least 30 years earlier. Scientists who have reviewed the studies agree that these workers show a higher rate of lung cancer than normal.

Industry officials insist that the evidence about fiberglass and other synthetic mineral fibers is inconclusive and that it is just as likely that the worker deaths found in the studies were caused by other factors, such as smoking, exposure to cancer-causing chemicals and family history. They also said that even if the synthetic fibers did cause cancer, the exposure levels were so low that there would be no serious public health threat.

But within the past few months, the manufacturers of fiberglass and related products, including Owens/Corning Fiberglas, the Certainteed Corporation and the Manville Corporation, have revised technical data sheets required by the Occupational Safety and Health law to state that recent epidemiological studies have found that their products might cause lung cancer. Protection From Lawsuits

Spokesmen for these companies said the changes were made because of their policy of keeping the public informed and because it was the law. But they also conceded that it was necessary to protect themselves against possible future lawsuits.

Most of the more than a dozen scientists, public health officials and Federal regulators interviewed said that even if the evidence about synthetic fibers causing cancer proved correct, the country probably would not be facing another health disaster of the dimensions of the asbestos epidemic. The number of premature cancer deaths caused by asbestos is now estimated at 9,000 a year and rising.

Raymond Motley, a lawyer representing the Sheetmetal Workers International and other construction unions in litigation over asbestos injury claims, said a number of studies have shown that fiberglass causes diseases such as bronchitis and emphysema in workers that produce it, and he raised the possibility that the unions might sue the fiberglass makers.

Evidence about the dangers of asbestos began emerging in the 1930's, but no action was taken to protect the public until the 1970's, after many workers had already developed lung cancer and other diseases. Now exposure to asbestos is stringently regulated by the Federal Government, and the Environmental Protection Agency has proposed gradually eliminating virtually all uses of the mineral. Cancer and Fiber's Shape

Research published in 1977 by Dr. Mearl Stanton of the National Cancer Institute indicated that it was the size and shape of the fiber, rather than its physical properties, that determined if it was a cause of cancer and other problems. Long, very narrow fibers that could penetrate deeply into lung tissue and remain there, causing tumors, are the main cause of concern, according to this research. It did not matter if the fiber was made of a natural mineral such as asbestos, or a synthetic fiber such as fiberglass, the researchers said.

In recent years manufacturers of synthetic mineral fibers have been making them thinner to increase their insulating properties.

Dr. Irving J. Selikoff, the noted asbestos authority at Mount Sinai Hospital in New York, said that there were not enough data to make a definitive statement about the health effects of fiberglass but that "some serious questions have to be asked because this is a terribly important problem." One major unanswered question, he said, involves the dangers to those who install and use products made of these fibers, as well as to the workers who make them. Fibers Virtually Unregulated

The Labor Department's Occupational Safety and Health Administration now classifies these fibers as "nuisance dust" that is virtually unregulated. The agency has no immediate plans to change its standard because there is not enough evidence to warrant such a change, according to Charles E. Adkins, the Occupational Safety and Health Administration's director for health standards programs.

But other Federal public health officials believe that if the evidence proves correct, exposure to these fibers would have to be controlled as stringently as exposure to asbestos. "We are giving this a very high priority," said Richard A. Lemen, director of policy for the National Institute of Occupational Safety and Health, or Niosh, a research arm of the Department of Health and Human Services.

Mr. Lemen noted that in 1977, Niosh had proposed that limits be placed on exposure to these fibers to protect workers from eye and respiratory inflammation. The Occupational Safety and Health Administration has never acted on the recommendation, but Mr. Lemen said the emerging evidence about cancer meant that the issue should receive careful reconsideration.

Richard Munson, founder and chairman of Victims of Fiberglass, a group based in California, insisted that OSHA act immediately to reclassify the synthetic fibers as possible carcinogens. Mr. Munson, a businessman who

markets cellulose insulation, which competes with fiberglass, said the use of these manufactured fibers in millions of buildings throughout the country "presents a public health problem of enormous dimensions."

J. Corbett McDonald, a professor of epidemiology and occupational health at McGill University in Montreal and London University in Britain, said: "There are reasons why we should be a little cautious scientifically about this. The case is not proven. But that is the scientific issue. The public health issue is different. I personally think that it would be wrong not to treat it seriously. I would go further and say I think we would be wise to treat all mineral fibers as posing a threat." Results of 3 Studies

At a meeting in Copenhagen last October sponsored by the World Health Organization, three epidemiological studies were presented by researchers from the United States and Europe. The studies suggested that some workers who had been exposed to synthetic mineral fibers for 30 years or more had contracted lung cancer. The studies covered 45,000 workers.

Sir Richard Doll, a highly respected British scientist known for his skeptical views about environmental causes of cancer, said in summing up the findings that the number of cancer deaths was in excess of "expected numbers" by a small but "numerically significant" amount.

Philip E. Enterline, co-author of the United States epidemiological study, which looked at mortality records among production and maintenance workers in 17 of the oldest and largest synthetic mineral fiber plants in this country, said that while more work needed to be done on the contribution of factors such as smoking to the cancer death rates, "the evidence is very suggestive."

Dr. Enterline, professor of biostatistics at Pittsburgh University's School of Public Health, said in a telephone interview, "All the answers are not in yet." But he added that the excessive cancer rates were "surprising" given the relatively low levels of exposure.

"It may yet turn out that these fibers have to be controlled the way asbestos is controlled," said Dr. Enterline.

A study published last year by scientists from Niosh and Batelle Laboratories found fibrous glass caused a significant increase in leukemia in laboratory rats and raised the possibility that the fibers might damage the cellular immune system of the rats.

Several studies have shown that implanting synthetic mineral fibers in the lungs of laboratory animals produced tumors in those animals.

Dr. Robert Anderson, corporate medical director of the Manville Service Corporation, said the epidemiological studies on workers exposed to fiberglass and other fibers had demonstrated no specific relationship between lung cancer and the duration and intensity of exposure to the fibers.

"It is our feeling that it probably was not the fiber that caused the small increase in lung cancer," he said.

Robert C. Doban, senior vice president for science and technology of Owens/Corning Fiberglas, described two studies, one of them by the Los Alamos National Laboratory, of test animals forced to breathe air containing high levels of synthetic fibers. Unlike the animals that had the fibers implanted in their lungs, the animals that breathed the fiber-laden air did not develop lung tumors, he said. Industry Cites Differences

The industry officials said fiberglass and most of the other synthetic fibers were different from asbestos in several important ways. For one thing they are thicker and do not penetrate the lung as deeply. And these fibers tend to be more soluble and tend to dissolve in human tissue before they cause tumors, they said.

The officials also dismissed the research that indicated the synthetic fibers might cause damage to the cellular immune system and leukemia, saying that no suggestion of these problems appeared in the epidemiological studies.

"The truth of all this is that the fibers are safe," Mr. Doban said. "The overwhelming body of evidence doesn't show a connection between the fibers and disease."

Mr. Anderson of Manville Service added, however, "We are dedicated to looking at this product more intensively than any product has been looked at in the past."

Dr. David L. Dull, acting director of the chemical control division of the Environmental Protection Agency, said the evidence showed that, with the possible exception of ceramic fibers, synthetic mineral fibers "are a lot less risky than asbestos." But he added, "Some evidence suggests we ought to treat it as a serious problem and regulate it like asbestos."

Noting that exposure to asbestos is now limited by law and exposure to synthetic fibers is virtually uncontrolled, he said, "If I had a choice of being exposed to asbestos at current exposure levels and to respirable man-made fibers, I would breathe asbestos every time because the exposure limits are so much more stringent."