Maybe a Breakthrough in Asbestos

A California Chemist, Working in a Backyard Garage, May Have Some Legitimate Answers to the Dreaded Asbestosis Challenge

There just might be a breakthrough in the asbestos problem.

As any wall and ceiling contractor knows, the benefits from the easily mined mineral are many—and so are the detriments. Long before researchers connected asbestos and cancer the danger of asbestosis, the chronic emphysema-like lung disease, was well known.

Asbestos—used extensively in construction as well as airport runways, gaskets and brake linings—produces its unique disease because microscopic fibres are inhaled and then become impaled in the cell lining of the lungs.

Recent research indicates that not only is the small fibre size a villain, but the chemical properties of the fibres also caused problems. The problems are great enough that asbestos is expected to claim some 10,000 lives annually for the next 20 years from related diseases that will crop up long after the initial exposure.

Indeed, people are still being exposed to it today.

What is the breakthrough then? A California chemist, Earl Flowers, working in his backyard garage, may just have come up with a unique chemical process which takes dead aim at asbestos’ most serious health dangers.

The Californian’s approach is to treat the asbestos fibres with metallic salt solutions, thus altering the fibres’ chemical properties. Early tests have been encouraging. For example, using petri dishes, Flowers noted that human lung cells that had been exposed to chemically treated asbestos fibres multiplied just about as well as those cells that had not been exposed to asbestos.

But for those cells that were exposed to untreated asbestos, the growth stopped.

Flow General employees, Earl Flowers and the company have obtained a patent for the process. Any statements about the process are still guarded.

Said Flow General president, Joseph E. Hall, “. . . further animal testing will be necessary before there can be a scientific consensus as to whether the process will result in decreased toxicity to humans.”

What makes the Flowers process so encouraging is its capacity to reduce health hazards while retaining all those beneficial qualities that make asbestos so commercially valuable.

The 49-year-old chemist worked on his process three years. An industrial hygienist and environmental chemist, he prefers working in his home in Petaluma. “I prepared the materials in a lab in my garage,” he explained, “It’s really a simple process. I have a line press to cut the asbestos, and two light polyethylene barrels for the treatment chemicals. That, plus a fluidized bed dryer—a system to blow hot air through a collection of fibres to dry the treated asbestos—is about it.”

Flowers obtained the ferrous sulphate, a source of soluble iron, from a nursery near his home. Mixing that chemical with the same material that one adds to a lawn to make it green, plus a small amount of hydrogen peroxide and battery acid forms the ferric salt solution. This is then slurried with the asbestos fibers.

Industry is already showing distinct interest in the process. The biomedical community will need to be persuaded, and then workers will need to be convinced that asbestos no longer poses so severe of a health hazard—and the billions of dollars in claims may soon begin drying up.