

*General PG-1(4)  
Letters to customers /  
subsidiaries*

October 24, 1974

Subject: "THE VINYL INDUSTRY WILL SURVIVE AND GROW"

Attached is our presentation to major customers on this subject. It has been approved at the appropriate management and legal levels.

Any of the material in this presentation can be used for customers. However, any press inquiries should be cleared through Bud Lane in Akron or Bob Downey at the Chemical Company.

P. J. Weaver

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## THE VINYL INDUSTRY WILL SURVIVE AND GROW

We know that all users of vinyl materials are concerned about the future supply of PVC materials, and rightfully so.

As you know, the PVC producers testified at the OSHA hearing that it was not practical nor feasible to operate PVC polymerization buildings under the proposed permanent standard of no detectable vinyl chloride level. OSHA's October 4, 1974 permanent standard of 1 ppm average and 5 ppm ceiling, although somewhat better than the no detectable proposal, will still require workers to wear respirators a very high percentage of the time as of January, 1976.

Before we deal with the problem of a work force in respirators, let's review briefly the history of exposure of workers to vinyl chloride. During the first 25 years of the industry (1940's through mid-1960's) most PVC workers were exposed consistently to levels in the range of 200 - 500 ppm with peak exposures much higher.

In recent years the levels have gradually dropped as technology and monitoring equipment have improved. At B.F. Goodrich, for example, our current levels of exposure average 8 - 10 ppm in the PVC polymerization areas of our five plants. The major problem is excursions in the range of 10 to 50 ppm in some buildings.

We testified at the OSHA hearings on this subject that, in our opinion, it would be technically feasible to attain average exposure levels of 10 ppm by late 1976.

The 14 PVC plant workers who have been diagnosed as having angiosarcoma of the liver had an average work history of 20 years. Thus, all were exposed to high levels of vinyl chloride and, in many cases, to other chlorinated hydrocarbons over a long period of time. Conditions today are radically different and much safer.

As you know, SPI and several VC and PVC producers, including B.F. Goodrich, have asked for judicial review of the new standard. The record of the OSHA hearings does not support the necessity for, nor the feasibility of, the permanent vinyl chloride standard. The complete lack of evidence, based on actual human experience, that today's low levels are hazardous has led us to the conclusion that the 1 ppm average and 5 ppm ceiling standard is unnecessary and unrealistic.

However, B.F. Goodrich is proceeding with plans for operation regardless of the future ruling of the U.S. Court of Appeals. Our R&D and engineering people have been challenged to develop and prove out new technology on a crash basis to minimize the necessity of wearing respirators in areas of our plants outside the polymerization buildings, i.e., office, engineering, lab, warehouse, etc. Installation of in-plant air collection and recovery systems coupled with super-ventilation systems will improve the general exposure level.

Next, we face the challenge of coming up with the technology that will provide for a more closed PVC polymerization system. Such a system will

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make it possible for us to approach levels of 10 ppm or below in all sections of our polymerization buildings. This is important because lighter, less cumbersome cartridge-type respirators can be used -- (subject to approval of specific types by NIOSH).

Operations calling for use of respirators for the major portion of the work day will call for understanding and cooperation by our work force, and our plant managers are dedicated to maintaining PVC resin manufacturing operations under these conditions, although productivity of equipment and people may drop. New facilities now under construction in Louisville, Kentucky will be used as the model to guide future renovation plans in existing plants. Capital will have to be generated to build new units incorporating new technology -- computer controls, large polymerizers, closed systems, etc. We believe that other PVC producers will be undertaking similar actions, although some older facilities may be shut down as new facilities come on stream.

While taking action to maintain our operations we have the urgent problem of design and improvement of facilities for stripping vinyl chloride from finished PVC resins and latexes. Progress in this area will not only minimize processor and fabricator problems with OSHA, but also with future EPA and FDA regulations.

For the next year or so, most PVC resins and latexes will contain enough residual vinyl chloride to require the processor to implement ventilation and work practice programs in order to maintain worker exposure levels below the action level of 0.5 ppm vinyl chloride. Work areas of concern should be -- unloading, storage, hot mixing, and hot forming operations.

We are confident that within 2 - 3 years, depending upon availability of technology and equipment, you will be able to purchase most PVC resins with less than 10 ppm residual VCM. Such low levels should make it possible for a typical processing plant to have all areas de-regulated, i.e., exposure less than 0.5 ppm.

We believe you can look forward to continued supply with some spot reductions in availability as significant engineering changes are made in existing PVC plants.

There is no doubt that PVC materials will cost more -- technology yet to be developed will be the determining factor. There were estimates made by a number of industry people through Foster D. Snell's work for OSHA which indicated a 10% increase in cost to reach the level of 10 ppm worker exposure levels.

We can assure you that B.F. Goodrich Chemical will do whatever is required to maintain its PVC operations while simultaneously taking steps to reduce residual monomer to the absolute minimum in materials shipped to our customers.

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