

# SOUND OFF!

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## Death of a packaging material

WHEN one examines the number of significant packaging materials, he is struck by the fact that even the oldest ones—wood, metal, glass—are still very much with us. True, their uses may have been undermined by newer products, but in their old age, they maintain a posture that is a credit to geriatrics.

What we now have, however, is the sad case of infant mortality. Barring a miracle of modern medicine, perhaps literally as well as figuratively, polyvinyl chloride (PVC) is a soon-to-be-buried packaging material.

### **PVC Lives Active Life**

What a fine record PVC has made during its relatively short life. While most packaging changes take years, within the space of only months, PVC film became the standard overwrap for fresh red meat packages. Once acceptable stabilizers were found, crystal clear PVC bottles appeared to be the long-sought answer for a plastic to compete with glass. It should be noted that the battle to secure FDA approval of suitable stabilizers was long and costly and but one example of the tough struggle which has been waged in behalf of PVC packaging.

As its potential packaging uses became apparent, producers recognized the need to develop machinery suitable for converting PVC resin into bottles. The Europeans were well ahead of us here and for a time, the only satisfactory blow-molding equipment was manufactured abroad. One would hate to guess the amount of time and money which has been spent in developing PVC processing equipment, but the effort has been spectacular. American machines are every bit as good as the best from abroad and the processing rates reflect a high degree of efficiency and quality construction.

In baseball, the rule is three strikes, then out. Although our PVC batter is now arguing with the umpire, the third strike has been called and the ball game is over. The first strike was thrown about a year or so ago when the corrosive effects of PVC first came to light. When the polymer is burned and

the fumes unite with moisture, small amounts of hydrochloric acid are formed. All the discussion in the world will not erase the fact that HCl will eat the hell out of metal. Incinerators for the most part in this country are not designed to compensate for this deleterious effect—generally speaking they are in Europe—and no matter whether PVC is a part of the solid waste stream which is burned or if quantities of it are ignited in a plant fire, the potential hazard is there. Frankly, I think the danger has been overblown, but then, I thought the same about the Corvair.

### **Gets Challenge from Glass**

The second strike was, interestingly enough, thrown at PVC by one of the older packaging materials, glass. In their efforts to destroy the PVC liquor bottle, the Glass Container Manufacturers' Institute filed a brief—a misnomer if there ever was one—detailing on page after page every shortcoming, real or imagined, that PVC might have. The result was delayed approval of the PVC liquor bottle and the subsequent costly effort by the Society of the Plastics Industry to refute the claims. Let the record show that SPI's efforts seemed about to pay off and PVC was to be given another chance.

Unfortunately, our mythical pitcher was saving his best pitch for the third strike. Cancer. Even the sound of the word promotes fear and the very real fact that men have died from what appears to be the effects of exposure to PVC was just too much for our tired batter. The argument may continue, but PVC is no longer a viable packaging material.

### **Problem is the Monomer**

Lest there be any misunderstanding, it is the vinyl chloride monomer, not PVC itself, that has been identified as the culprit. There is some doubt about the causative effects of VCM. But the mounting evidence cannot be dismissed lightly. A major effort is underway to establish VCM levels which are considered safe and I have no doubt that

such levels can be determined and maintained, just as proper incinerating methods were found to control the corrosive effects of PVC.

However, more than one injustice has been the result of fear rather than fact and even if the facts eventually exonerate PVC, the damage has already been done. No matter how much society may later regret such examples as the Dreyfus Case or the forced migration of Japanese-Americans from the West Coast in 1942, subsequent retribution can scarcely ameliorate the situation. With such influential forces as the federal National Institute for Occupational Safety and Health, the Health Research Group, the Food and Drug Administration, the Consumer Product Safety Commission, the Environmental Protection Administration, the Occupational Safety and Health Administration, and who knows who else, demanding the elimination or at least the control of PVC packages, no packaging professional can justify recommending the use of PVC by his company.

### **No Easy, Quick Answer**

Obviously, this is an enormously complex subject and one about which the final answers may not be known for years. Men of good will are working hard to produce the answers, but neither the public nor companies who package products can afford to gamble on a positive outcome. The ban on the use of cyclamates may have been premature, but who wishes to be used for a test?

One can only hope that the fallout from the adverse PVC publicity will not damage its use and growth in areas other than packaging. It is a dandy product and although the PVC producers will suffer from the loss of packaging applications, they should not be penalized unnecessarily.

In anticipation of the mail this column will generate, let me say that naught would make me happier than to be proved wrong in my conclusions, but failure to face the problem is, in my view, the greater sin. There are alternatives to PVC packages; I must counsel the use of them.