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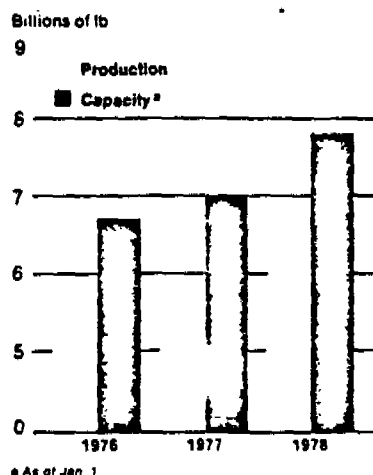
Key Chemicals



Vinyl chloride

- Demand strong
- Capacity growing
- Prices steady

PRODUCTION/CAPACITY



HOW MADE

Dehydrochlorination (cracking) of ethylene dichloride made from reaction of ethylene and chlorine

MAJOR DERIVATIVES

Homo- and copolymers, almost 100%

MAJOR END USES

Extrusions such as pipe 55%, film 15%, coatings 10%, moldings 10%

FOREIGN TRADE

Exports—more than 10% of production, 700 to 800 million lb in 1978; imports—negligible

PRICES

Large-volume contracts at plants, 13.5 to 14.5 cents a lb

COMMERCIAL VALUE

\$850 million for total production, 1978

Vinyl chloride has everything going for it but selling price. This is the way one industry source sums up the 1978 outlook for the plastics monomer. Production this year is likely to top 6 billion lb for the first time.

Besides anticipated production growth of 7%, good by current U.S. chemical industry standards, vinyl chloride has other pluses. These include ready availability of raw materials, ethylene and chlorine, costs of which are well under control. Another important factor helping vinyl chloride is relatively straightforward technology, deficiencies of which involve mainly corrosion problems.

Probably the least recognized plus for vinyl chloride is how well producers of both the monomer and polymers handled the vinyl chloride toxicity problem. When exposure to the monomer was shown to be a health problem in 1973, workable technology was rushed into plants making or handling vinyl chloride to reduce or otherwise cope with emissions. Some important loss of capacity was experienced by producers at the time, but subsequent innovations have practically made up for the loss in capacity. The entire episode was handled without damage to markets and without shortages of products.

The emissions problem was costly, certainly, in the form of added capital investment. This investment has been tough to recover. Even today, this problem of return on added investment remains a plague to this segment of the chemical industry.

At prices of about 14 cents a lb for large-volume sales at plants, returns are not what producers of vinyl chloride expect. Unfortunately, prices have not been getting better. If anything, the average market price for vinyl chloride declined slightly over the past year.

The explanation for this situation, odd in the light of widespread price increases for other vinyl polymers during the same period, is part obvious and part speculative. Clearly, competitive pressures exist. Capacity to make vinyl chloride has risen in the past year and will continue to rise. The added capacity has had some impact on pricing.

A reinforcing factor is that the raw materials for the ethylene dichloride precursor of vinyl chloride have had stable prices. Ethylene, in spite of many producers' efforts to put in sizable and, some say, needed price increases, is

priced almost what it was a year ago. Chlorine's coproduct, caustic soda, has been in stronger demand than chlorine, so the chlorine price has been under downward pressure. In effect, there is little excuse for a price increase for vinyl chloride from the raw materials side.

The speculative part of vinyl chloride's price story is improvements in plant production efficiency. Undoubtedly, the intense efforts to minimize emissions added to the store of technological refinements. However, the easy improvements were made starting about two years ago. If the big gains in efficiency are now over, then costs of production for labor, utilities, and the like will return to a net rising rate.

Even with the selling price problem, vinyl chloride apparently still looks good to many planners in the chemical industry. Their optimism is leading to even more capacity in addition to that just started up in late 1977 and so far in 1978. At the beginning of 1979, vinyl chloride's official nameplate capacity is expected to reach 8.8 billion lb. By this time next year, nameplate capacity could be about 9.8 billion lb. Still more capacity has been announced for completion in 1980.

Each of the recently completed plants or plants under construction sports announced capacity of 1 billion lb or slightly more. Hence, the favorable economies of size also may be an important factor in planning expansions.

The future of vinyl chloride must look reasonably bright to those planning new capacity. The various uses of polyvinyl chloride continue to grow closer to forecasts than have uses of many other polymers. The PVC use pattern also is broadening as technology improves to provide toxicity-free polymers for more narrow uses.

The dominant PVC market of extrusions, much of it in pipe, is showing unexpectedly strong demand. One reason is that residential and commercial construction is proceeding better than forecast. A continuous series of changes in building codes also helps the construction growth alone. However, the outlook for this area is beginning to cloud up as interest rates mushroom in the general economy.

In sum, vinyl chloride will post a relatively strong 7% growth in 1978. It might not do so well next year, if the economy slows, but demand still might fool any forecasters of gloom.