

The many products and applications of benzenoid chemicals and their derivatives have resulted from intensive research over the years in this chemical area. Recent figures indicate that Cyanamid reinvests over 6 percent of its affected benzenoid chemical sales dollar in research and this percentage has been increasing each year. Some amazing results have been obtained not only in original uses, such as more efficient dyes and pigments, but also in areas which might be considered distant from the generally industrial uses of benzenoids: in the late 1930's and early 1940's sulfa drugs—which are still significant drugs in the fight against infections in man and animals—were developed from benzenoid chemical research; more recently methotrexate, which has been termed one of the most significant drugs in cancer chemotherapy, owes its discovery to basic research in the benzenoid area. Rubber chemicals, which give longer life and greater dependability to tires and other important rubber products also result from Cyanamid research to find new benzenoid chemicals. The list of Cyanamid accomplishments could be continued, and other American companies in the benzenoid industry could swell the list with their own research discoveries, such as nylon and other man-made fibers, synthetic rubber and leather.

It should also be mentioned that under the Defense Production Act many millions of dollars of U.S. produced benzenoid chemicals—pesticides, dyes, intermediates and rubber chemicals, sulfonamides, and organic pigments—have been classified as “strategic materials” in the Nation's military, atomic energy and other defense programs.

While benzenoid chemicals are important in themselves, they reach far out of their immediate field and affect most areas of the United States economy.

Just as there is a chemical and economic interrelationship in many areas, there is close interrelationship in the production of benzenoid products. Numerous and varied manufacturing steps, reactions and conversions, are required to produce the desired end products. Each of these steps requires a great deal of labor. The American workingman's rate of pay is the highest in the world; the highest wage rate for the chemical industry among foreign countries does not amount to half the U.S. hourly rate. (See exhibit II).

COMPARATIVE PRODUCTIVITY AND EFFECT ON IMPORTS/EXPORTS

The usual axiom given in mitigation of comparison of hourly rates—that the American worker earns more but also produces proportionally more than a foreign laborer—does not hold true in the chemical field.

According to a recent report (Tariffs and the United States Benzenoid Industry—SOCMA (May 1966) chart III), four large German chemical companies averaged almost half again as much in sales income per manpower cost unit as did five large U.S. chemical companies having a comparable product mix. The German companies sold \$4.87 of product for every dollar of employee cost while the U.S. companies sold \$3.31.

Another index of productivity which is useful when comparing companies or industries in different countries, is measured by cal-