

PROCESS ECONOMICS PROGRAM

SRI INTERNATIONAL
Menlo Park, California
94025

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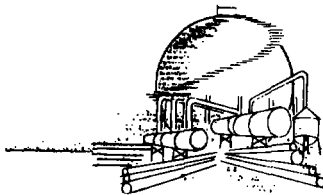
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Abstract

Process Economics Program Report No. 86A

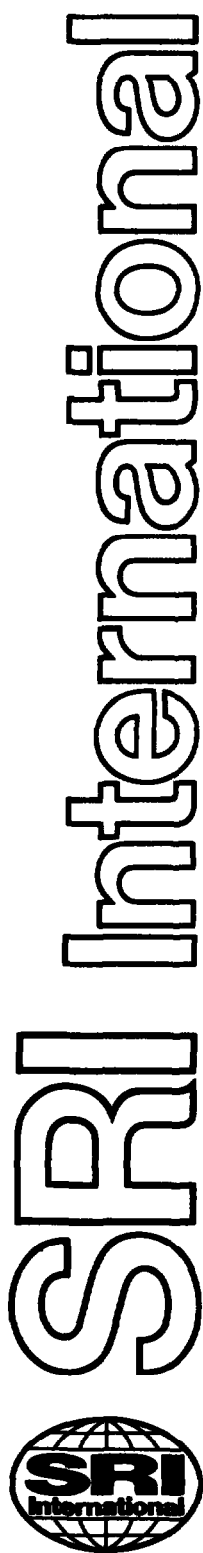
HIGH TEMPERATURE POLYMERS

(July 1980)

This supplementary report on high temperature polymers is an extension of the initial report (issued August 1975) that covered polyimide, polyamide-imide, and polyphenylene oxide. In this supplement, manufacturing processes for the following polymers are evaluated: polysulfone, polyethersulfone, polyphenylene sulfide, and a polyarylate made from terephthaloyl chloride, isophthaloyl chloride, and bisphenol A. Processes for making the monomer materials, 4,4'-dichlorodiphenyl sulfone and terephthaloyl and isophthaloyl chloride are also evaluated.

At the present time, the market for these polymers is relatively small, i.e., less than 10 million lb/yr in each case, and the prices are relatively high--ranging from about \$2.40 to \$8.95 per pound for base grade products. The growth prospects for the products are not clear. However, polyphenylene sulfide sales have grown 60%-70%/yr in recent times.

The unique properties of these products enable them to compete in applications where ceramics, glass, or metals might normally be used. These products are also being used to replace conventional plastics in applications where upgraded performance is desired.



Report No. 86A

HIGH TEMPERATURE POLYMERS

SUPPLEMENT A

by LLOYD M. ELKIN

July 1980

A private report by the
PROCESS ECONOMICS PROGRAM

Menlo Park, California 94025

For detailed marketing data and information, the reader is referred to one of the SRI programs specializing in marketing research. The CHEMICAL ECONOMICS HANDBOOK Program covers most major chemicals and chemical products produced in the United States and the WORLD PETROCHEMICALS Program covers major hydrocarbons and their derivatives on a worldwide basis. In addition, the SRI DIRECTORY OF CHEMICAL PRODUCERS services provide detailed lists of chemical producers by company, product, and plant for the United States and Western Europe.

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