



PROCESS ECONOMICS PROGRAM

SRI INTERNATIONAL
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Abstract

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BUTADIENE

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Most of the world's butadiene is obtained as a coproduct of ethylene, especially by the steam cracking of naphtha or gas oil. When there is not sufficient co-product butadiene available, supplies can be supplemented by material made by the oxidative dehydrogenation of n-butenes. Regardless of the source, the butadiene must be separated from other C₄ hydrocarbons (mainly butane and butenes). Extractive distillation is the major separation process in current use.

This report contains process descriptions, capital investment estimates, and production cost estimates for the Petro-Tex oxidative dehydrogenation process to produce butadiene from n-butenes and for the three extractive distillation processes that are presently available for licensing in the United States. The extractive distillation processes are the Nippon Zeon process (dimethylformamide solvent), the BASF process (N-methyl pyrrolidone solvent), and the Union Carbide process (dimethylacetamide solvent). All estimates are for a production rate of 50,000 metric tons per year of butadiene.

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BUTADIENE

SUPPLEMENT B

by GRANT E. RUSSELL

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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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