

PROCESS ECONOMICS PROGRAM

SRI INTERNATIONAL
Menlo Park, California
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CHLORINE

(December 1982)

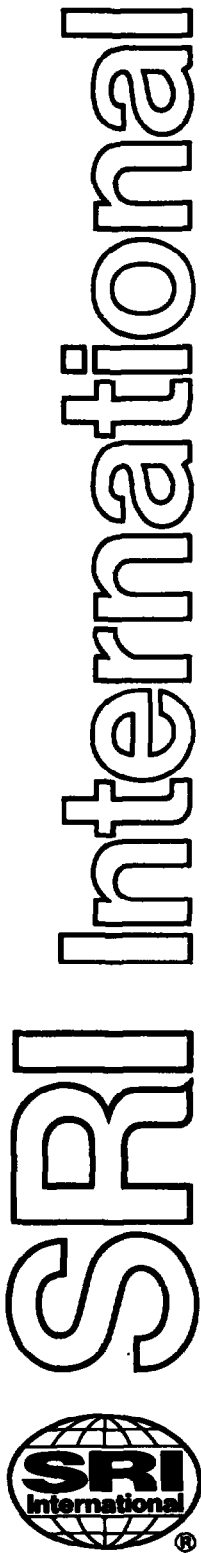
Abstract

In this report SRI comprehensively reviews the technology of salt electrolysis to make chlorine and sodium hydroxide. The economics of the three processes--the diaphragm, the mercury, and the membrane--are compared under various conditions and at different capacities.

We evaluate the synthesis of soda ash by the classic Solvay process and two modified versions of it (one that by-produces ammonium chloride and another that uses trimethylamine). Processes for recovery of natural soda ash from trona are reviewed; the monohydrate process and a process using solution-mined trona are evaluated.

In view of the ever-increasing cost of caustic soda relative to the cost of natural soda ash, caustization of soda ash as an integral part of making soda ash from trona is studied, and two processes are evaluated: one using solid-mined trona, and one using solution-mined trona.

Processes for making caustic soda without coproducing chlorine are reviewed.



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CHLORINE

SUPPLEMENT C

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with contributions by CHIEN NIEH

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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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