Abstract
Process Economics Program Report No. 130A
WATER-SOLUBLE POLYMERS
(October 1993)

This report covers three types of water-soluble polymers:
1. Water-soluble cellulose ethers
2. Acrylic acid-maleic anhydride copolymers [or acrylic acid-maleic anhydride (acid) copolymers] and their copolymers partially or fully neutralized in the form of the alkali metal or ammonium salts
3. Carrageenan.

These water-soluble polymers, which are produced in relatively small volumes, are relatively high-value specialty chemical products. They are used in a variety of applications such as foods, paper, detergents, pharmaceuticals, cosmetics, tooth pastes, and toiletries.

This report reviews the industry status and technological development of water-soluble cellulose ethers since PEP Report 130 was issued in April 1979 and updates the process economics for the production of sodium carboxymethyl cellulose and hydroxypropyl methyl cellulose. It also reviews the properties and applications of acrylic acid-maleic anhydride (acid) copolymers and carrageenan and their production technologies. In addition, the report estimates the process economics for the production of an acrylic acid-maleic acid (sodium salts) copolymer and a refined carrageenan product.

This report will be of use to present and future water-soluble polymer producers and users.
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