Abstract
Process Economics Program Report 115B
ENVIRONMENTALLY DEGRADABLE POLYMERS
(December 1994)

First generation biodegradable polymers, which were largely commercialized in the 1980s, did not satisfy the public’s view of complete degradation. Second generation polymers have recently been introduced and promoted as fully biodegradable by the industry. However, these new polymers are much higher priced than the commodity polymers typically used in packaging applications. The industry is currently working toward bringing down the price of biodegradable polymers by increasing production capacity and improving process technology.

This supplementary report reviews the market conditions and important technical progress made in biodegradable polymers since PEP Report 115A (of the same title) was issued in April 1991. The economics developed in this report address the four major biodegradable polymers that are commercially available:

- Starch-based polymers
- Polylactides
- Polyhydroxyalkanoates
- Polycaprolactone.

For those in the biodegradable polymers business, this report will be useful for its extensive review of recently published literature and the comparative economics it provides. The report’s discussion of the underlying principles of biodegradation will also be useful for those developing applications in this field.
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- Extraction and Purification (Section 200)  

**PROCESS DISCUSSION**  
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- Extraction and Purification  
- Waste Treatment  
- Materials of Construction  

**CAPITAL AND PRODUCTION COSTS**  

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**CHEMISTRY**  

**PROCESS REVIEW**  

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- Selection of Design Patent  
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