

**FISH GELATIN-BASED BIODEGRADABLE  
PLASTIC: A COMPREHENSIVE REVIEW OF  
SYNTHESIS METHODS AND ENVIRONMENTAL  
IMPLICATION**

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Fish Gelatin-Based Biodegradable Plastics: A Comprehensive Review of  
Synthesis Methods and Environmental Implications

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COMPREHENSIVE REVIEW OF SYNTHESIS METHODS AND  
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## **ABSTRACT**

### **FISH GELATIN-BASED BIODEGRADABLE PLASTIC: A COMPREHENSIVE REVIEW OF SYNTHESIS METHODS AND ENVIRONMENTAL IMPLICATION**

This review aims to delve into the development and implications of fish gelatin-based biodegradable plastics as a sustainable alternative to traditional petrochemical plastics. This study reviews the preparation of fish gelatin films through diverse methods like crosslinking of natural active agents, chemical agents, polymer blending, and addition of nanoparticles for the enhancement of mechanical, thermal, and barrier properties. From the review, the best method is crosslinking of natural active agents using transglutaminase. These techniques demonstrate that the performance enhancement of fish gelatin-based plastics for food packaging and biomedical uses is drastic. The environmental impacts of these biodegradable plastics are assessed, with a particular focus on their biodegradability. Fish gelatin-based plastics exhibit favorable biodegradability under appropriate environmental conditions.