

# **The Complete Book on Biodegradable Plastics and Polymers (Recent Developments, Properties, Analysis, Materials & Processes)**

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Biodegradable plastics made with plant based materials have been available for many years. The term biodegradable means that a substance is able to be broken down into simpler substances by the activities of living organisms, and therefore is unlikely to persist in the environment. There are many different standards used to measure biodegradability, with each country having its own. The requirements range from 90 per cent to 60 per cent decomposition of the product within 60 to 180 days of being placed in a standard composting environment. They may be composed of either bio plastics, which are plastics whose components are derived from renewable raw materials, or petroleum based plastics which contain additives. Biodegradability of plastics is dependent on the chemical structure of the material and on constitution of the final product, not just on the raw materials used for its production. Polyesters play a predominant role as biodegradable plastics due to their potentially hydrolysable ester bonds. Bio based polymers are divided into three categories based on their origin and production; polymer directly extracted from biomass, polymers produced by classical chemical synthesis using renewable biomass monomer and polymers produced by microorganisms or genetically modified bacteria. In response to public concern about the effects of plastics on the environment and in particular the damaging effects of sea litter on animals and birds, legislation is being enacted or is pending in many countries to ban non degradable packing, finishing nets etc. This book basically deals with biodegradable plastics developments and environmental impacts, hydro biodegradable and photo biodegradable, starch synthetic aliphatic polyester blends, difference between standards for biodegradation, polybutylene succinate (pbs) and polybutylene, recent developments in the biopolymer industry, recent advances in synthesis of biopolymers by traditional methodologies, polymers, environmentally degradable synthetic biodegradable polymers as medical devices, polymers produced from classical chemical synthesis from bio based monomers, potential bio based packaging materials, conventional packaging materials, environmental impact of bio based materials: biodegradability and compostability, etc.

Environmentally acceptable degradable polymers have been defined as polymers that degrade in the environment by several mechanisms and culminate in complete biodegradation so that no residue remains in the environment. The present book gives thorough information to biodegradable plastic and polymers. This is an excellent book for scientists engineers, students and industrial researchers in the field of bio based materials.

## **Contents**

## BIODEGRADABLE PLASTICS – DEVELOPMENTS AND ENVIRONMENTAL IMPACTS

Biodegradable

The ASTM defines “biodegradable” as

Compostable

“Compostable” is defined by the ASTM as

Hydro-biodegradable and Photo-biodegradable

Bio-erodable

Thermoplastic Starch Products

Degradation Mechanisms and Properties

Starch Synthetic Aliphatic Polyester Blends

Degradation Mechanisms and Properties

Starch and PBS/PBSA Polyester Blends

Degradation Mechanisms and Properties

Starch-PVOH Blends

Degradation Mechanisms and Properties

PHA (Naturally Produced) Polyesters

Degradation Mechanisms and Properties

PHBH (Naturally Produced) Polyesters

Degradation Mechanisms and Properties

PLA (Renewable Resource) Polyesters

Degradation Mechanisms and Properties

PCL (Synthetic Aliphatic) Polyesters

Degradation Mechanisms and Properties

PBS (Synthetic Aliphatic) Polyesters

Degradation Mechanisms and Properties

AAC Copolyesters

Degradation Mechanisms and Properties

Modified PET

Degradation Mechanisms and Properties

Water Soluble Polymers

Polyvinyl Alcohol (PVOH)

Degradation Mechanisms and Properties

Ethylene Vinyl Alcohol (EVOH)

Photo-biodegradable Plastics

Degradation Mechanisms and Properties

Controlled Degradation Additive Masterbatches

Degradation Mechanisms and Properties

Coated Paper

Agricultural Mulch Film

Shopping Bags

Food Waste Film and Bags

Consumer Packaging Materials

Landfill Cover Film

Other Applications

Biodegradation Standards and Tests

American Society for Testing and Materials

ASTM D5338-93 (Composting)

ASTMD5209-91 (Aerobic, Sewer Sludge)

ASTM D5210-92 (Anaerobic, Sewage Sludge)

ASTM D5511-94 (High-solids Anaerobic Digestion)

ASTM Tests for Specific Disposal Environments

International Standards Research

International Standards Organisation

European Committee for Normalisation  
â€™OK Compostâ€™™ Certification and Logo  
Compost Toxicity Tests  
Plant Phytotoxicity Testing  
Animal Toxicity Test  
Difference Between Standards for Biodegradation  
Development of Australian Standards  
Composting Facilities and Soil Burial  
Key Factors Defining Compostability  
Physical Persistence  
Chemical Persistence  
Toxicity  
Effect on Quality of Compost  
Anaerobic Digestion  
Waste Water Treatment Plants  
Reprocessing Facilities  
Landfills  
Marine and Freshwater Environments  
Litter  
Key Issues  
Recyclable Plastics Sorting Considerations  
Reprocessing Considerations  
Polyolefin Reprocessing  
Polyethylene Reprocessing  
Composting  
Landfill Degradation  
Energy Use  
Greenhouse Gas Emissions  
Pollution of Aquatic Environments  
Increased Aquatic BOD  
Water Transportable Degradation Products  
Risk to Marine Species  
Litter  
Compost Toxicity  
Recalcitrant Residues  
Aromatic Compounds  
Additives and Modifiers  
Isocyanate Coupling Agents  
Plasticisers  
Fillers  
Catalyst Residues  
Prodegradants and Other Additives  
Source of Raw Materials  
Development of Australian Standards and Testing  
Life-Cycle Assessment  
Minimisation of Impact on Reprocessing  
Determination of Appropriate Disposal Environments  
Education  
Identify standards and test methods for biodegradable  
plastics in Australia  
APPENDIX A  
Abiotic disintegration  
Activated Sludge

Aerobic degradation  
Aliphatic-aromatic Copolyesters (AAC)  
Aliphatic polyesters (e.g. PCL)  
Amylose  
Anaerobic degradation  
ASTM  
Bioassimilation  
Biodegradable  
Bioerodable  
Biomass  
Compostable  
Compostable Plastics  
Composting  
Copolyesters  
Decomposer organism  
Degradability  
Degradable PET  
Ecotoxicity  
Foamed starch  
Functional Group  
Humus  
Hydrolysis  
LCA  
Masterbatch  
Mineralisation  
Modified PET  
Monomer  
Organic Recycling  
Photo-biodegradation  
Photodegradable  
Phytotoxicity  
Plastified Starch  
Polybutylene succinate (PBS) and polybutylene  
succinate adipate (PBSA)  
Polycaprolactone (PCL)  
Polyesters  
Polyhydroxyalkanoates (PHA)  
Polyhydroxybutyrate (PHB)  
Polylactic Acid (PLA)  
Polylactic acid aliphatic copolymer (CPLA)  
Polymer  
Polyvinyl Alcohol (PVOH)  
Prodegradant  
Recalcitrant Residues  
Thermoplastic Polymers  
Thermosetting Polymers  
Thermoplastic Starch

## 2. RECENT DEVELOPMENTS IN THE BIOPOLYMER INDUSTRY

### INTRODUCTION

### FIBRE-REINFORCED COMPOSITES

### STARCH BASED MATERIALS

### PLANT PRODUCED POLYMERS

### MICROBIALY PRODUCED POLYMERS

BIOLOGICALLY-BASED RESINS, ADHESIVES,  
 AND COATINGS  
 CONTINUING RESEARCH AND DEVELOPMENT  
 ON BIOPOLYMERS  
 CONCLUSION  
 3. RECENT ADVANCES IN SYNTHESIS OF BIOPOLYMERS BY “TRADITIONAL”  
 METHODOLOGIES  
 INTRODUCTION  
 BIODEGRADABLE POLYMERS  
 POLYMER MODIFICATION  
 A Modification of Polysaccharides  
 Modification of Polypeptides  
 Summary  
 4. POLYMERS, ENVIRONMENTALLY DEGRADABLE  
 DEFINITIONS  
 OPPORTUNITIES FOR ENVIRONMENTALLY DEGRADABLE PLASTICS AND POLYMERS  
 TEST METHODS FOR ENVIRONMENTALLY DEGRADABLE POLYMERS  
 Test Methods  
 DEGRADATION MECHANISMS  
 Photodegradation  
 BIODEGRADATION  
 PRODUCTION OF ENVIRONMENTALLY DEGRADABLE POLYMERS  
 5. SYNTHETIC BIODEGRADABLE POLYMERS AS MEDICAL DEVICES  
 POLYMER CHEMISTRY  
 A Note on Nomenclature  
 PACKAGING AND STERILIZATION  
 PROCESSING  
 Factors That Accelerate Polymer Degradation  
 DEGRADATION  
 COMMERCIAL BIODEGRADABLE DEVICES  
 6. BIOBASED PACKAGING MATERIALS FOR THE FOOD INDUSTRY  
 INTRODUCTION  
 PROPERTIES OF BIOBASED PACKAGING  
 MATERIALS  
 Introduction  
 Food biobased materials - a definition  
 Origin and description of biobased polymers  
 Polymers directly extracted from bio-mass  
 Polysaccharides  
 Starch and derivatives  
 Cellulose and derivatives  
 Chitin/Chitosan  
 Proteins  
 Casein  
 Gluten  
 Soy protein  
 Keratin  
 Collagen  
 Whey  
 Zein  
 Polymers produced from classical chemical synthesis  
 from biobased monomers  
 Polylactic acid (PLA)

Biobased monomers  
Polymers produced directly by natural or genetically modified organisms  
Poly(hydroxyalkanoates) (PHAs)  
Bacterial cellulose  
Material properties  
Gas barrier properties  
Gas barriers and humidity  
Water vapour transmittance  
Thermal and mechanical properties  
Compostability  
Possible products produced of biobased materials  
Blown (barrier) films  
Thermoformed containers  
Foamed products  
Coated paper  
Additional developments  
Conclusions and perspectives

## FOOD BIOPACKAGING

Introduction  
Food packaging definitions  
Primary, secondary and tertiary packaging  
Edible coatings and films  
Active packaging  
Modified atmosphere packaging  
Combination materials  
Food packaging requirements  
Replacing conventional food packaging materials with biobased materials - a challenge  
Biobased packaging - food quality demands  
State-of-the-art in biopackaging of foods  
Potential food applications  
Fresh meat products  
Conventional packaging materials  
Potential biobased materials  
Ready meals  
Conventional packaging materials  
Potential biobased packaging materials

Dairy products  
Conventional packaging materials  
Potential biobased packaging materials  
Beverages  
Conventional packaging materials  
Potential biobased packaging materials  
Fruits and vegetables  
Conventional packaging materials  
Potential biobased materials  
Snacks  
Conventional packaging materials  
Potential biobased packaging materials  
Frozen products  
Conventional packaging materials

Potential biobased packaging materials

Dry products

Conventional packaging materials

Potential biobased packaging materials

Conclusions and perspectives

## SAFETY AND FOOD CONTACT LEGISLATION

Introduction

Biobased materials and legislation on food contact materials

Common EU legislation

Biobased materials

Petitioner procedures

Standardized test methods

Implications of EU legislation for food and packaging industry

Assessment of potentially undesirable Interactions

Migration of compounds from biobased packages to contained food products

Microbiological contamination of biobased food packages

Penetration of microorganisms through biobased packaging materials

Penetration of insects and rodents into biobased food packages

Collapse due to absorbed moisture from the environment and the contained food product

Conclusions and perspectives

## ENVIRONMENTAL IMPACT OF BIOBA-SED MATERIALS: BIODEGRADABILITY AND COMPOSTABILITY

Biodegradability

The composting of biobased packaging

The CEN activity

The compostable packaging

Characterization

Laboratory test of biodegradability

Disintegration under composting conditions and verification of the effects on the process

Compost quality: chemical and eco-toxicological analysis

Natural materials

Biodegradability under other environmental conditions

## ENVIRONMENTAL IMPACT OF BIOBA-SED MATERIALS: LIFECYCLE ANALYSIS OF AGRICULTURE

A sustainable production of biobased products

What is LCA?

Environmental impact of agriculture

Crops for biofuels

The ECN study

Environmental impact of bio-based products

The Buwal study on starch-based plastics

The case of hemp-based materials: LCA does not allow generic statements

Compostoâ€™s study on bags for the collection of organic waste

The Ecobilanâ€™s study. The LCA of paper sacks

The Ifeu-IBIFA-study The LCA of loose-fill-packaging

Conclusions

## THE MARKET OF BIOBASED PACKAGING MATERIALS

Introduction

Market appeal

Market drivers

Marketing advantages

Functional advantage in the product chain

Cost advantage in the waste disposal system

Legislative demands

Consumers

The market

Today

Tomorrow

Price

Conclusions

## CONCLUSION AND PERSPECTIVE

Performance of materials

Food applications

Safety and legislation on materials in contact with food

The environment

The market of biobased packaging materials

Perspective

7. PLASTICS FROM POTATO WASTE (SENATE â€™ JUNE 20, 1991)

BEGIN INSERT

PLASTICS FROM POTATO WASTE

STARCH TO GLUCOSE TO LACTIC ACID

LACTIC ACID INTO PLASTIC

POTENTIAL MARKETS

8. BIODEGRADABLE PLASTICS FROM RENEWABLE SOURCES

ANALYSIS

Plastics and the environment

The move to renewable sources

Extending the recycling loop

Biopolymers, conventional plastics and  
biodegradable plastics

The plastics sector

Packaging

Plastic films

Structure of the business

Recent developments

Biodegradability and compostability

Challenges ahead

9. SYNTHETIC POLYMERS FUNCTIONALIZED BY CARBOHYDRATES

Polymerizations of the vinyl sugar monomers

to obtain poly(vinylsaccharide)s

Polymerization of anhydro sugars

Anhydro sugar polymerizations

Enzymatic and Enzyme mediated Polymerizations (Chemo-enzymatic methods)

Polymer analogous reactions

10. BIODEGRADABLE POLYOLEFINS

General procedure for grafting of sugars

onto poly(styrene maleic anhydride)

Determination of biodegradability of polymers



using aerobic microorganisms

Weight loss data

FTIR Spectral Data

Molecular weight decrease after biodegradation  
by GPC

Appendix 1

Mechanism of reaction of poly(styrene maleic  
anhydride) with the sugar

Appendix 2

Scanning electron micrographs of the polymers before  
and after bacterial degradation

## 11. PROCESS FOR THE PREPARATION OF BIODEGRADABLE SYNTHETIC POLYMERS

### FORMULA OF THE PRODUCT

#### INTRODUCTION

#### OBJECTIVE OF THE PRESENT INVENTION

Wherein

#### PREFERRED EMBODIMENTS

#### EXPERIMENTAL/ EXAMPLES

#### CLAIMS

#### CONCLUSION

## 12. FUNGAL DEGRADATION OF CARBOHYDRATE-LINKED POLYSTYRENES

Materials

Synthesis of sugar linked PS-MAH (General Procedure)

FTIR Spectra

Test microorganisms

Testing of the samples

#### APPENDIX 1

Reaction Mechanism

Calculations (representative)

For sucrose linked to poly(styrene maleic anhydride)

#### APPENDIX 2

## 13. GLUCOSE AND GLUCOSE DERIVATIVES WITH POLY(STYRENE MALEIC ANHYDRIDE)

#### APPENDIX 1

1,2-5,6 Diisopropylidene D- glucose

Step 1: Tritylation and acetylation of D- glucose

Blank reaction of PSMAH in DMF solvent system  
with 4-DMAP as the catalyst

Hydrolysis reaction of PSMAH using DMF as  
the solvent and 4-DMAP as the catalyst

## 14. THERMAL ANALYSIS OF SUGAR- LINKED POLY(STYRENE MALEIC ANHYDRIDE)

Thermogravimetry

FTIR characterization of the thermally treated products

## 15. BIOMINERALIZATION OF THE SUGAR-LINKED POLY(STYRENE MALEIC ANHYDRIDE)

Experimental set-up

Composition of minimal medium for 1 litre solution

Solutions for the titration are as follows

Preparation of the inoculum

## 16. BIODEGRADATION OF ACYLATED SUGAR-LINKED POLY(STYRENE MALEIC ANHYDRIDE)

Procedure for Acylation of sugar- linked  
poly(styrene maleic anhydride) polymers

FTIR spectroscopy of the acylated derivatives  
 of sugar-linked poly(styrene maleic anhydride)  
 Thermal studies of acylated derivatives of sugar-  
 linked poly(styrene maleic anhydride) polymers  
 Biodegradation by *Serratia marscecens*  
 Biodegradation by *Pseudomonas* sp.  
 Weight loss data  
 Materials  
 Test microorganisms  
 Testing of the samples  
 Weight loss data  
 APPENDIX 1  
 (Sugar-linked PSMAH and their acylated products degraded by *Serratia marscecens* and *Pseudomonas* sp.)  
 Preparation of Reagent A, B, C, and D  
 17. BIOTECHNOLOGY: AN ENABLING TECHNOLOGY  
 BIOTECHNOLOGY AND CO2 EMISSIONS  
 THE SOYA BEAN: AN IMPORTANT RENEWABLE RESOURCE  
 CHEMICALS FROM BIOLOGICAL FEEDSTOCKS  
 LIFE CYCLE ASSESSMENT OF PROTEASES  
 18. DEGRADABLE PLASTICS FOR COMPOSTING  
 CERTIFICATION AND STANDARDS  
 BIODEGRADABLE POLYMERS  
 DEGRADABLE PLASTICS  
 WHAT USERS WANT  
 QUESTIONS FOR THE FUTURE  
 19. STARCH BASED BIODEGRADABLE PLASTICS  
 INTRODUCTION  
 TECHNOLOGY COMMERCIALIZATION MODEL  
 APPLICATION OF TECHNOLOGY COMMERCIALIZATION MODEL  
 Starch-based Biodegradable Plastics – Commercialization Case Studies  
 CONCLUSION  
 20. BIODEGRADABLE PLASTICS FROM WHEAT STARCH AND POLYLACTIC ACID (PLA)  
 INTRODUCTION AND BACKGROUND  
 RESULTS FROM PREVIOUS FUNDING  
 RATIONAL AND SIGNIFICANCE  
 PROCEDURES/METHODOLOGY  
 OTHER RELATED WORKS  
 21. MAKING PACKAGING GREENER – BIODEGRADABLE PLASTICS  
 PLASTICS THAT BREAK DOWN  
 PLASTICS CAN BE PRODUCED FROM STARCH  
 PLASTICS CAN ALSO BE PRODUCED BY  
 BACTERIA  
 WHAT’S THE COST?  
 BIODEGRADABLE AND AFFORDABLE  
 MULCH FILM FROM BIODEGRADABLE PLASTICS  
 POTS YOU CAN PLANT  
 DIFFERENT POLYMER BLENDS FOR DIFFERENT PRODUCTS  
 LANDFILL SITES AREN’T COMPOST HEAPS  
 COMPOSTING THE PACKAGING WITH ITS CONTENTS  
 AN OLYMPIC EFFORT – RECYCLING 76  
 PER CENT OF WASTE  
 22. PET MATERIALS AND APPLICATIONS  
 INTRODUCTION

## POLYMERISATION AND MANUFACTURING PROCESSES

Manufacturing plants

## STRUCTURES, MORPHOLOGY AND ORIENTATION

Structure

Morphology

Orientation

Creep

## PROPERTIES

Molecular weight and intrinsic viscosity

End group

Thermal properties

## RHEOLOGY AND MELT VISCOSITY

Melt viscosity

Melt flow

Moulding shrinkage

## MOISTURE UPTAKE AND POLYMER DRYING

Moisture level

Polymer drying

## DEGRADATION REACTIONS

Thermal and thermal oxidative degradation

Environmental degradation

## REHEAT CHARACTERISTICS

## GAS BARRIER PROPERTIES

## AMORPHOUS POLYESTERS

Homopolymers

Low copolymers

Medium copolymers

High copolymers

## CRYSTALLINE POLYMERS

## POLYMER BLENDS

## APPLICATIONS

## TRENDS

## GLOBALS

## 23. PET FILM AND SHEET

Extrusion

Casting

The forward draw preheat (FWDPH)

The forward draw (FWD)

The sideways draw preheat (SWDPH)

The sideways draw (SWD)

## 24. INJECTION AND CO-INJECTION PREFORM TECHNOLOGIES

## MULTILAYER CHARACTERISTICS

## APPLICATIONS

Performance-driven applications

Economics - or legislative-driven applications

Combination applications

## CLOSURE VS BOTTLE PERMEATION

## CONTAINER PERFORMANCE

Barrier properties

Oxygen barrier

Carbon dioxide barrier

Scavenger property

## WALL STRUCTURE

PREFORM AND BOTTLE DESIGN

Permeation through finish, sidewall and base

Controlled fill

HEADSPACE OXYGEN ABSORPTION

OXYGEN DESORPTION FROM PET

BEER CONTAINERS

SMALL JUICE CONTAINERS

SMALL CSD CONTAINERS

CORE LAYER VOLUMES

RECYCLING

COMPARISON OF CO-INJECTION TECHNOLOGIES

CO-INJECTION MOLDING EQUIPMENT

25. INJECTION BLOW MOULDING

INTRODUCTION

BASIC PRINCIPLES

HISTORY

PROCESS IDENTIFICATION

COMMERCIAL PROCESSES

Rotary table machines : Jomar, Uniloy and similar

TOOLING

PROCREA

MATERIALS

APPLICATIONS

Machine and process capabilities

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