

Medical Plastics: Global Markets to 2022

https://marketpublishers.com/r/M6719907685EN.html Date: December 2017 Pages: 227 Price: US\$ 1,250.00 (Single User License) ID: M6719907685EN

Abstracts

Report Highlights:

The global market for medical plastics reached nearly 12.8 billion pounds in 2016. This market is estimated to reach 18.3 billion pounds in 2022 from 13.6 billion pounds in 2017 at a compound annual growth rate (CAGR) of 6.2% for 2017-2022.

Commodity thermoplastics market is expected to grow from 8.1 billion pounds in 2017 to nearly 10.9 billion pounds in 2022 at a CAGR of 6.0% from 2017 through 2022.

Thermosets market is expected to grow from 972.8 billion pounds in 2017 to nearly 1.4 billion pounds in 2022 at a CAGR of 7.0% from 2017 through 2022.



Contents

CHAPTER 1 INTRODUCTION

Study Goals and Objectives Reasons for Doing This Study Scope of Report Information Sources Methodology Analyst's Credentials Related BCC Research Reports

CHAPTER 2 SUMMARY AND HIGHLIGHTS

CHAPTER 3 MARKET AND TECHNOLOGY BACKGROUND

Trends in Healthcare Geographical Structure of Demand for Medical Plastics Polymers Used in Medical Devices Commodity Thermoplastics Engineering Resins Thermoset Resins Summary of Resin Usage in Medical Devices

CHAPTER 4 LEGISLATIVE AND REGULATORY ISSUES

U.S.

FDA Regulations Plastics Testing Procedures Biocompatibility Issues Recent Developments European Union (EU) Japan Other Countries Canada China India Latin American Nations



CHAPTER 5 ENVIRONMENTAL ISSUES

Background Medical Waste Source Reduction Recycling Solid Waste Disposal

CHAPTER 6 MEDICAL DEVICE PLASTIC PROCESSES

Injection Molding Background Details Extrusion Background Single- and Twin-Screw Extrusion Extrusion and Melt Film Fabrication **Blown Films** Film Casting Solvent Casting **Blow Molding** Overview **Extrusion Blow Molding** Injection Blow Molding Stretch Blow Molding Thermoforming History Overview Applications

CHAPTER 7 STERILIZATION TECHNIQUES

Overview of Methods Ethylene Oxide Gas Sterilization Radiation Sterilization Gamma Radiation E-Beam Radiation Vaporized Hydrogen Peroxide



Dry-Heat Sterilization Gamma Radiation vs. ETO The Move to Global Sterilization Standards Polymer Reactions to Sterilization Methods Background

PVC

Polypropylene Polyethylene ABS and SAN Polycarbonate Polystyrene Polyesters Radiation Resistance

CHAPTER 8 VALIDATION TESTS FOR MEDICAL PLASTICS

Background Ratings and Tests Selected Sterilization Standards for Medical Devices

CHAPTER 9 APPLICATIONS

Background Point-of-Care Testing Infusion Drug Delivery Therapy Other Applications Waste Reduction Sterilization and Biocompatibility Medical Device Category Criteria Application Market Estimates and Forecasts Nondisposables Overview Market Estimates and Forecasts Surgical Instruments Testing and Diagnostic Equipment Implants and Prosthetic Devices Dental and Ophthalmic Products



Disposable Medical Devices Overview Medical Disposal Controversy Market Estimates and Forecasts Medical Bags Syringes Labware Catheters Kits Tubing Gloves Utensils Trays Plastic Stents

CHAPTER 10 RESINS USED IN MEDICAL DEVICES

Background **Material Selection Target Areas for Medical Plastics** Potential Problems Encountered in Using Specific Polymers for Medical Applications in Hospital Environments Resins Background **Commodity Thermoplastics Styrenics Engineering Resins Thermoset Resins** Elastomers **Miscellaneous Resins Changing Requirements Property Requirements** Other Developments Failure of Plastic Medical Devices Physical Property Effects on Resin Materials Overview Impact Strength Stress-Strain Behavior Heat Resistance



Chemical Resistance Clarity or Transparency Bondability Summary of Physical Property Characteristics of Medical Devices Use of Plastics in Medical Devices Overview Overview Overall Resin Usage Medical Plastics Market Estimates and Forecasts

CHAPTER 11 COMMODITY THERMOPLASTICS

Polyvinyl Chloride Overview Forms of PVC A Versatile Resin Processing **Consumption Patterns Environmental Issues** Producers and Capacities **PVC Medical Device History Medical Applications** Sterilization of PVC PVC Still a Favorite for Medical Disposable Devices The PVC Replacement Issue Polypropylene Background Overview Properties Advances in Polypropylene Technologies **Highly Crystalline Grades** Random Copolymer Polypropylenes Techniques Used to Impart Clarity Polypropylene Films Sterilization of Polypropylene Advantageous Medical Properties **Producers and Capacities** Examples of Polypropylene Medical Devices Polyethylenes Background



High-Density Polyethylene (HDPE) Low-Density Polyethylene (LDPE)

CHAPTER 12 STYRENIC RESINS

Overview Polystyrene Overview General Purpose Polystyrene (GPPS) High-Impact Polystyrene (HIPS) Market Players and Industry Leaders Processing Medical Applications of Polystyrene and HIPS Styrene Copolymers Overview Styrene Block Copolymers Acrylonitrile-Butadiene-Styrene (ABS) Styrene-Acrylic Copolymers Styrene-Acrylonitrile Copolymers (SAN)

CHAPTER 13 ENGINEERING RESINS

Introduction Polycarbonates Overview Impact of Bisphenol A on Polycarbonate Usage Processing Property Advantages and Disadvantages **General Grades** Alloys/Blends Producers Medical Properties and Applications Nylon Background Properties Major Types of Nylons Processing Producers Nylon Sterilization



Medical Applications Thermoplastic Polyesters Polyethylene Terephthalate—PET Polybutylene Terephthalate (PBT) **Medical Applications** Sterilization and Disposal **Polyacetals** Grades Properties Processing **Medical Products** Specific Polyacetals Aimed at Medical Products Polysulfones Properties Types of Polysulfones **Medical Applications Specific Polysulfone Medical Products** Polyimides Polyetherimides (PEI) Producers Polyketones Properties **Medical Applications** Producers Liquid Crystal Polymers Properties Applications Producers Engineering Resin Market Estimates and Forecasts

CHAPTER 14 THERMOSET RESINS

Acrylics Properties Manufacture of Acrylic Polymers Properties Important Acrylic-Producing Companies Medical Products and Sterilization Use in Medical Devices



Silicones Technology Medical Applications Silicone Medical Device Producers Polyurethanes General Medical Applications Market Estimates

CHAPTER 15 THERMOPLASTIC ELASTOMERS (TPES)

Overview **Advantages** Disadvantages Processing **Applications** Thermoplastic Olefins (TPOs) Ingredients and Properties **Medical Applications Competitive Scenario** COPEs (Copolyesters) **Properties and Medical Applications** Thermoplastic Polyurethanes (TPUs) Medical Properties and Sterilization **Medical Applications TPU-Silicone Copolymers** Market Estimates and Forecasts

CHAPTER 16 POLYMER ALLOYS AND BLENDS

Background

PPO/HIPS

Overview Grades Processing Properties and Advantages Medical Products



PC/ABS

Background Producers Use in Medical Devices

CHAPTER 17 BIOPOLYMERS AND BIODEGRADABLE POLYMERS

Overview Expected Growth of Biodegradable Polymer Sutures Types of Biodegradable Polymers Used in Medical Applications Polymers for Controlled Delivery Background PLLA-Based Wound Dressings Market Estimates and Forecasts

CHAPTER 18 MISCELLANEOUS RESINS

Overview Fluoropolymers Background Medical Products Fluoropolymer Medical Device Suppliers Market Estimates and Forecasts

CHAPTER 19 INDUSTRY STRUCTURE

Background Companies Injection Molders Medical Film and Sheet Manufacturers Medical Blow Molders Medical Thermoformers Medical Resin Producers Recent Mergers and Acquisitions

CHAPTER 20 PATENT REVIEW

Crush Recoverable Polymer Scaffolds



Covalently Attached Antimicrobial Polymers Bioabsorbable Polymer Compositions Polyisobutylene, Urea, and Urethane/Urea Copolymers and Medical Leads Medical Devices and Materials Containing Isobutylene Polymer Side-Chain Crystallizable Polymers for Medical Application Medical Polymers Containing Radiation-Resistant Polymers Coatings for Manufacture and Application of Polyhydroxy-Alkanoate Medical Devices Low Friction Polymeric Compositions as Well as Devices and Fabrication Methods Thermal Responsive Polymer Siloxanes, Compositions and Methods, and Applications Monomers and Phase-Separated Biocompatible Polymer Compositions Modified Hyaluronic Acid Polymer Compositions Method of Manufacturing Antimicrobial Implants of Polyetherether Ketones Mono Ethylenically Unsaturated Polymerizable Group Containing Polycarbosiloxane Monomers Copolymers and Dihydroxyphenyl Moieties and Medical Devices Coated with Copolymers Methods for Making Oxidation Resistant Polymeric Material Medical Devices and Coatings Comprising Biodegradable Polymers with Enhanced Functionality Polymeric Materials for Medical Devices

CHAPTER 21 NEW TECHNOLOGIES

Electrically Stimulated Polymers for Medical Devices Synthetic Bioabsorbables Aimed at New Medical Applications

3D BIOPRINTED ORGANS

Wearable Lung Spinal Prosthesis Plastic-Coated Platelets to Reduce Internal Bleeding Plastic-Handled Acupuncture Needles Polysulfone Brain Implants Stretchable Hydrogels for Artificial Muscles Biocidal Plastics

CHAPTER 22 COMPANY PROFILES

ALLERGAN



APEX MEDICAL TECHNOLOGIES

BARD MEDICAL DIVISION (C.R. BARD INC.)

BAXTER INC.

BECTON DICKINSON AND COMPANY

B. BRAUN MEDICAL INC.

CATALENT PHARMA SOLUTIONS

DA/PRO RUBBER

DUNN INDUSTRIES INC.

FILTERTEK INC.

FLUORTEK INC.

FREUDENBERG MEDICAL INC.

GW PLASTICS

HARMAC MEDICAL PRODUCTS

HOSPIRA

INTERNATIONAL POLYMER ENGINEERING

MEDICAL PLASTIC DEVICES INC.

MEDICAL POLYMERS INC.

MEDPLAST INC.

MEDTRONIC



MEXICHEM SPECIALTY COMPOUNDS

MICROLUMEN INC.

NDH MEDICAL INC.

POLYONE CORP.

PROFESSIONAL PLASTICS

PUTNAM PLASTICS COMPANY LLC

SAINT GOBAIN PERFORMANCE PLASTICS

SPECTRUM PLASTICS GROUP

SUNMED LLC

TELEFLEX MEDICAL

THERMO FISHER SCIENTIFIC INC.

VANCIVE MEDICAL TECHNOLOGIES

VENTION MEDICAL

W.L. GORE AND ASSOCIATES

CHAPTER 23 APPENDIX: SELECTED ACRONYMS



List Of Tables

LIST OF TABLES

Summary Table: GLOBAL MEDICAL PLASTICS MARKET, BY RESIN, THROUGH 2022

Table 1: Leading Global Medical Device Companies, 2017

Table 2: Selected Resin Usage by Type of Medical Device

Table 3: Radiation Resistances of Key Medical Plastics

Table 4: Selected Tests for Plastics Used in Medical Applications

Table 5: Selected Examples of Sterilization Standards for Medical Devices

Table 6: Global Medical Plastics Market, by Overall Application, Through 2022

Table 7: Global Nondisposable Medical Plastic Market, by Application, Through 2022

Table 8: Selected Key Manufacturers of Surgical Instruments

Table 9: Global Surgical Instruments and Related Equipment Market, by Resin, Through2022

Table 10: Global Commodity Thermoplastic Surgical Instruments and Related Equipment Market, by Type, Through 2022

Table 11: Global Styrenic Resins Surgical Instruments and Related Equipment Market, by Type, Through 2022

Table 12: Global Surgical Instruments and Related Equipment Market, by Other Resins, Through 2022

Table 13: Key Selected Medical Testing and Diagnostic Companies

 Table 14: Global Testing and Diagnostic Equipment Market, by Resin, Through 2022

Table 15: Global Commodity Thermoplastic Testing and Diagnostic Equipment Market, by Type, Through 2022

Table 16: Global Styrenic Resin Testing and Diagnostic Equipment Market, by Type, Through 2022

Table 17: Global Testing and Diagnostic Equipment Market, by Other Resins, Through 2022

Table 18: Global Prostheses and Implants Market, by Resin, Through 2022

Table 19: Global Commodity Thermoplastic Prostheses and Implants Market, by Type, Through 2022

Table 20: Global Prostheses and Implants Market, by Other Resins, Through 2022

Table 21: Global Dental and Ophthalmic Market, by Resin Type, Through 2022

Table 22: Global Dental and Ophthalmic Market, by Specific Resin Used, Through 2022

Table 23: Global Disposable Medical Plastic Market, by Application, Through 2022

Table 24: Selected Medical Bag Manufacturers

Table 25: Global Medical Bag Market, by Resin, Through 2022



Table 26: Other Selected Syringe Manufacturers

- Table 27: Global Syringes Market, by Resin, Through 2022
- Table 28: Examples of Disposable Medical Plastic Labware
- Table 29: Selected Plastic Medical Labware Suppliers
- Table 30: Global Medical Labware Market, by Resin, Through 2022
- Table 31: Resin Property Criteria for Catheters
- Table 32: Selected Catheter Manufacturers
- Table 33: Global Catheter and IV Unit Market, by Resin, Through 2022
- Table 34: Material Property Criteria for Kits
- Table 35: Global Kits Market, by Resin, Through 2022
- Table 36: Common Features of Selected Applications of Primary Resins Used in Medical Tubing
- Table 37: Sample Applications of Flexible Medical Tubing by Major Category
- Table 38: Selected Plastic Medical Tubing Extruders
- Table 39: Global Tubing Market, by Resin, Through 2022
- Table 40: Selected Key Medical Glove Manufacturers and Major Products
- Table 41: Global Medical Glove Market, by Resin, Through 2022
- Table 42: Global Medical Utensil Market, by Resin, Through 2022
- Table 43: Resin Property Criteria for Trays
- Table 44: Selected Plastic Medical Tray Manufacturers
- Table 45: Global Trays Market, by Resin, Through 2022
- Table 46: Physical Property Advantages and Disadvantages of Medical Plastics
- Table 47: Resin Usage by Type of Medical Device
- Table 48: Global Medical Plastics Market, by Resin, Through 2022
- Table 49: Global Disposable Medical Market, by Resin, Through 2022
- Table 50: Global Nondisposable Medical Market, by Resin, Through 2022
- Table 51: Leading Global PVC Producers
- Table 52: Leading Global Polypropylene Producers
- Table 53: Leading Global HDPE Producers
- Table 54: Global LDPE Producers and Applications
- Table 55: Global Commodity Thermoplastic Medical Market, by Type, Through 2022
- Table 56: Global Commodity Thermoplastics, by Disposable Medical Application, Through 2022
- Table 57: Global Disposable Commodity Thermoplastic Medical Market, by Type, Through 2022
- Table 58: Global Disposable PVC Medical Market, by Application, Through 2022 Table 59: Global Disposable Polypropylene Medical Market, by Application, Through 2022
- Table 60: Global Disposable HDPE Medical Market, by Application, Through 2022



Table 61: Global Disposable LDPE/LLDP Medical Market, by Application, Through 2022 Table 62: Global Nondisposable Medical Commodity Thermoplastics Market, by Application, Through 2022

Table 63: Global Nondisposable Commodity Thermoplastic Medical Market, by Type, Through 2022

 Table 64: Global Nondisposable PVC Medical Market, by Application, Through 2022

Table 65: Global Nondisposable Polypropylene Medical Market, by Application, Through 2022

Table 66: Global Nondisposable HDPE Medical Market, by Application, Through 2022

Table 67: Fabrication Methods and Uses for Polystyrene

Table 68: SBC Major Products Segmented by Polymer Process

 Table 69: Global Styrenic Resin Medical Market, by Type. Through 2022

Table 70: Global Disposable Styrenic Resin Medical Market, by Type, Through 2022

Table 71: Global Disposable Styrenic Resins Medical Market, by Application, Through2022

Table 72: Global Disposable Polystyrene or HIPS Medical Market, by Application, Through 2022

Table 73: Global Nondisposable Styrenic Resin Medical Market, by Type, Through 2022

Table 74: Global Nondisposable Styrenic Resins Medical Market, by Application, Through 2022

Table 75: Global Nondisposable Polystyrene or HIPS Medical Market, by Application, Through 2022

Table 76: Global Nondisposable ABS Medical Market, by Application, Through 2022

Table 77: Key Global Polycarbonate Trade-Named Products and Producers

Table 78: Key Global Nylon Resin Producers

Table 79: Key Global Polyacetal Producers and Trade-Named Products

Table 80: Global Producers of Polyketones

Table 81: Global Liquid Crystal Polymer Producers

Table 82: Global Engineering Resin Medical Market, by Type, Through 2022

Table 83: Global Disposable Engineering Resin Medical Market, by Type, Through 2022

Table 84: Global Disposable Engineering Resins Medical Market, by Application, Through 2022

Table 85: Global Disposable Polycarbonate Medical Market, by Application, Through 2022

Table 86: Global Disposable Polyester Medical Market, by Application, Through 2022Table 87: Global Nondisposable Engineering Resins Medical Market, by Application,

Through 2022

 Table 88: Key Silicone Medical Device Producers

Table 89: Global Thermoset Medical Market, by Type, Through 2022



Table 90: Global Disposable Thermoset Medical Market, by Resin, Through 2022 Table 91: Global Disposable Thermoset Resins Medical Market, by Application, Through 2022

Table 92: Global Disposable Acrylic Medical Market, by Application, Through 2022

Table 93: Global Disposable Silicone Medical Market, by Application Through 2022

Table 94: Global Nondisposable Thermoset Resins Medical Market, by Application, Through 2022

Table 95: Selected Medical Silicone-Polyurethane Copolymer Products

Table 96: Global TPE Medical Market, by Type, Through 2022

Table 97: Global Disposable TPE Medical Market, by Application, Through 2022

Table 98: Selected Fluoropolymer Medical Device Suppliers

Table 99: Global Miscellaneous Medical Resins Market, by Application Type, Through2022

Table 100: Global Nondisposable Miscellaneous Medical Resins Market, by Application, Through 2022

Table 101: Global Disposable Miscellaneous Medical Resins Market, by Application, Through 2022

Table 102: Leading Medical Injection Molders

Table 103: Leading Medical film and Sheet Manufacturers

Table 104: Leading Medical Blow Molders

Table 105: Leading Medical Thermoformers

Table 106: Selected Medical Trade Named Products, Types of Resins, and Producers



List Of Figures

LIST OF FIGURES

Summary Figure: Global Medical Plastics Market, by Resin, Through 2022



I would like to order

Product name: Medical Plastics: Global Markets to 2022

Product link: https://marketpublishers.com/r/M6719907685EN.html

Price: US\$ 1,250.00 (Single User License / Electronic Delivery) If you want to order Corporate License or Hard Copy, please, contact our Customer Service: <u>info@marketpublishers.com</u>

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <u>https://marketpublishers.com/r/M6719907685EN.html</u>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name: Last name: Email: Company: Address: City: Zip code: Country: Tel: Fax: Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <u>https://marketpublishers.com/docs/terms.html</u>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970