



Biodegradable Polymers



Specialty Monomers & Polymers for Biomedical Applications

Polysciences Inc. has been an established supplier of specialty biomedical materials since 1961. We have partnered with innovative companies both large and small in the development of biodegradable polymers and microparticles for medical device and drug delivery applications.

Polysciences, Inc. currently develops and manufactures novel monomers & polymers for a range of applications including:

- **Cardiovascular** – Device Coatings and Microspheres for Calibration
- **Ophthalmic** – Specialty Monomers, Coatings and Additives
- **Bioassay Systems** – Surface Active Microparticles and Hydrogel Polymers

Polymers based on lactic acid (LA), glycolic acid (GA) and its copolymers with ethylene glycol (EG), as well as Polycaprolactone-based materials open new avenues for:

- Medical & Dental Devices
- Encapsulation & Drug Delivery
- Gene Therapy
- Drug Targeting
- Tissue Engineering
- Biodegradable Sutures
- Micellar Anticancer Carriers
- Orthopedic Fixation Devices
- Formulation of Artificial Blood Systems
- Determination of Cellular Pathway Mechanisms

Acrylate and Methacrylate Polymers

- Homopolymers from acrylic or methacrylic monomers
- Copolymers of acrylates/methacrylates with specialized adhesion agents
- Cationic or anionic co-polymers for charge sensitive end-use applications
- Hydrophilic polymers (e.g. polyhydroxyethyl methacrylate)
- Polyacrylates with fluorescent tags (e.g. anthracene or fluorescein type)
- Super-absorbing polyacrylates for liquid retention
- Metal salt or halogen containing acrylic copolymers)



Biodegradable Polymers

- Homopolymers and copolymers with lactic acid and glycolic acid
- Diblock and triblock copolymers of polyethyleneglycol with lactic or glycolic acids
- Polycaprolactones



Ophthalmic Grade Monomers and Polymers

- Hydrophilic monomers such as hydroxy ethyl methacrylate, N',N'dimethyl acetamide, glycerol methacrylate and other can be converted into copolymers with specialized properties
- UV absorbing monomers
- High refractive index polymers



Pressure Polymers

An extensive range of pressure polymers are now possible including:

- Poly(ethylene-co-vinyl acetate)
- Terpolymers of ethylene vinyl acetate with acrylic comonomers (e.g. acrylic acid)
- Specialty fluorinated copolymers
- Functionalized poly(ethylene-co-vinyl acetate)

Working with clients under confidentiality agreement, Polysciences, an FDA registered facility, offers both GLP and c-GMP synthesis, purification and scale-up for medical polymer excipients. Our regulatory and senior technical staff are available to consult with your project teams to optimize project development timelines and expedite "time to market."



We invite you to contact one of our technical specialists to discuss your specific needs regarding composition, specifications and supply.