

Polymer Technologist Job Description

- Conceptualize and test new polymer formulations for specific applications
- Utilize modeling software to predict polymer properties under various conditions
- Design polymers and composites for enhanced strength, flexibility, durability etc.
- Manipulate polymerization reactions through catalyst and temperature changes
- Evaluate properties like viscosity, bonding, crystallinity, glass transition temperature
- Develop scalable processes from lab bench to production floor
- Perform failure mode analysis on plastic parts and products
- Identify root causes of fabrication defects through methods like microscopy or spectroscopy
- Quantitatively measure factors like absorption, decomposition rates, or crack propagation
- Validate quality assurance and control standards and specifications
- Review manufacturing processes for efficiency, waste reduction, and sustainability gains
- Ensure developed products meet regulatory standards for safety, labeling requirements, etc.
- Compile data and documentation for submission to supervisory agencies
- Demonstrate material performance claims through standardized industry testing
- Register new polymer formulations to expand business opportunities and IP assets
- Identify optimizations of plastic manufacturing machinery for throughput and quality gains

- Troubleshoot equipment issues and down-time events on the production floor
- Communicate scale-up procedures from lab bench to factory floor
- Train personnel on new materials and proper equipment procedures
- Respond to customer inquiries or complaints regarding off-spec product
- Lead a research team focused on polymer applications for a specific industry
- Mentor junior scientists and technicians on experimental methods and project execution
- Publish findings in industry journals and apply for patents when viable
- Present research conclusions and production recommendations to stakeholders
- Consult with cross-functional partners like marketing, finance, and legal on project viability.