



Polyamide Blends of Varying Renewable Content

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Summary: A method to produce blended polymers that have different renewable carbon content and a suite of high performance properties

Description: Polyamides, also known as Nylons, are an important class of engineering thermoplastics with a variety of applications. With the exception of polyamide-11, polyamides are typically derived from non-renewable fossil resources. However, this is changing as more monomers become available from renewable resources. This invention combines 100% biorenewable polyamide-11 with partially renewable polyamide-6, 10 to create a family of materials having different renewable carbon content and a suite of high performance properties. Blends of different types of Nylons is an established art. For example, blends of aliphatic and aromatic polyamides find application in the automobile industry. Generally, the scientific and patent literatures suggest that aromatic-aliphatic blends are thermodynamically miscible, but that aliphatic-aliphatic blends are usually immiscible. The art developed here is novel, unique, and unexpected due to the finding that the combination of the two aliphatic polyamides (polyamide-11 and polyamide-610) are found to be thermodynamically miscible.

Main Advantages of this Invention

- Uses a large percentage of renewable material
- The described blends cost less to produce
- Environmental performance is superior to those derived from fossil fuels

Potential Areas of Application

- Manufacture of automotive parts
- Powder coatings
- Piping
- Construction materials

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Intellectual Property Status: US utility patent pending (application #14/448,903)

Opportunity: We are seeking an exclusive or non-exclusive licensee for marketing, manufacturing, and sale of this technology.

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