

The Opportunity

CERESTECH Inc., a spin-off company of the Ecole Polytechnique de Montreal was created to develop the commercial potential of an important breakthrough in applied polymer science: a novel material based on a blend of polyethylene and thermoplastic starch prepared via a unique one-step process.

The technology possesses a number of exceptional features:

Material Properties

- polyethylene-like properties with high ductility and high modulus even at high loadings of TPS
- reduced cost as compared to pure PE
- high flexibility in tailoring the properties to particular needs
- low sensitivity to moisture
- large supply of a renewable resource
- starch can be made to be fully accessible for biodegradation
- transparency even at high TPS loadings
- heat-sealable with microwaves

Process Characteristics

- preparation via a novel one-step compounding/processing operation using off the shelf polymer processing equipment
- availability in pellets
- process that is readily adapted to other polymers such as polypropylene, polystyrene, biodegradable polyester

Technology

This technology is the world's first to succeed in blending polar starch with commodity plastics and create a product with similar properties to the plastics alone. The new technology can be applied to most commodity plastics. Its unique one step preparation process requires only a very simple integration of off-the-shelf machinery.



Using a significant amount of starch to replace the polymer in the plastic production process will greatly increase any plastic producers' profit margins. Prices of starch are consistently cheaper (around 80%) than synthetic plastics and less cyclical. A manufacturer using the Cerestech technology will expand his markets, hence increasing and diversifying his revenue base.

For just one application – plastic film – the opportunity is in a market expected to reach \$17.6 billion by 2004 in the US alone.

Intellectual Property

Patents have been filed in all key countries. The patent applications cover the novel materials and the process required to make them.

For More Information

The Company is seeking qualified licensees to bring their innovative new Polyethylene alternative into commercial use. For more information, contact:

Dr. Stephen P. Weeks, President
First Principals, Inc.
1768 East 25th Street
Cleveland, OH 44114
Tel: 216-881-8521
Fax: 216-881-8522
email: spweeks@firstprincipals.com
Website: <http://www.firstprincipals.com>