



# OFFICE OF ECONOMIC DEVELOPMENT

## MISCIBLE POLYCARBONATE



**Dr. David Boyles**

Professor  
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### STATUS

- Patent in place

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### OVERVIEW

Incorporation of aromatic or strong polar connector groups had been accepted by the scientific community to cause immiscibility with Bisphenol-A Polycarbonate. Dr. David Boyles from the South Dakota School of Mines and Technology has developed and patented processes that contradict this previous finding. Transparent miscible blends of aromatic polycarbonate and high aspect-ratio polycarbonate polymers offer a more dynamic product line with increased mechanical and thermal properties at reduced cost.

### DESCRIPTION

Aromatic polycarbonate polymers blended with polycarbonate polymers containing high aspect-ratio monomers are superior in many respects.

- Blends in all proportions
- Miscible
- No phase separation
- Transparent
- Single glass transition temperature
- Benefits in mechanical strength, ductility, and thermal resistance
- Better dipole formation when blended if dielectric polymer desired

### ADVANTAGES

- Generates properties and performance higher than that of low cost polymer
- Results an overall cost less than that of the expensive polymer cost

### LICENSING OPPORTUNITIES

This technology is patented. South Dakota School of Mines Office of Economic Development is actively seeking exclusive and/or nonexclusive licensing opportunities. Joint development opportunities are also available.