

homogeneous polymer blend

Also contains definition of: miscible polymer blend

Polymer blend that is a single-phase structure.

Notes:

1. Modified from previous definition. The definition proposed here is preferred because it emphasizes the requirement for homogeneity over miscibility.
2. For a polymer blend to be miscible it must obey the thermodynamic criteria of miscibility.
3. Miscibility is sometimes assigned erroneously on the basis that a blend exhibits a single T_g or is optically clear.
4. The miscible system can be thermodynamically stable or metastable.
5. For components of chain structures that would be expected to be miscible, miscibility may not occur if molecular architecture is changed, e.g., by crosslinking.

Source:

PAC, 2007, 79, 1801 (*Definitions of terms relating to the structure and processing of sols, gels, networks, and inorganic-organic hybrid materials (IUPAC Recommendations 2007)*) on page 1817