Polymer Chemistry: Crystal Melting Transition

Melting is the transition between a crystalline solid and a liquid. The melting point of a small molecule is very well-defined at a given pressure. Water, for instance, melts at 0°C when P = 1 atm.

Polymers, on the other hand, do not have a single well-defined melting point. When a polymer "melts" it slowly becomes "leathery," then "tacky," and then liquid over a fairly broad temperature range. The crystalline portion of the polymer is a nonequilibrium distribution of a large number of crystallites of different sizes and in different environments. They all do not melt at exactly the same temperature.

Contributors and Attributions

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