

The definitions of the solution viscosities are, of course, based upon the solution viscosity (η), the solvent viscosity (η_0), and the polymer concentration (c). The polymer concentration in solution is commonly specified in units of grams/deciliter (grams/100 ml).

Viscosity	Definition
relative viscosity	$\eta_r = \frac{\eta}{\eta_0}$
specific viscosity	$\eta_{sp} = \eta_r - 1$
reduced viscosity	$\eta_{red} = \frac{\eta_{sp}}{c}$
inherent viscosity	$\eta_{inh} = \frac{\ln \eta_r}{c}$
intrinsic viscosity	$[\eta] = \lim_{c \rightarrow 0} \frac{\eta_{sp}}{c}$

The most useful of these is the intrinsic viscosity due to the fact that it is independent of concentration. However, it does depend on the particular solvent used. Of course, graphical determination of the $\lim_{c \rightarrow 0}$ requires numerous data points to be accurately determined. For this reason, an “intrinsic viscosity” is sometimes reported that is not actually obtained from this limit, but is rather the viscosity at some low concentration that approximates the viscosity in the limit.

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