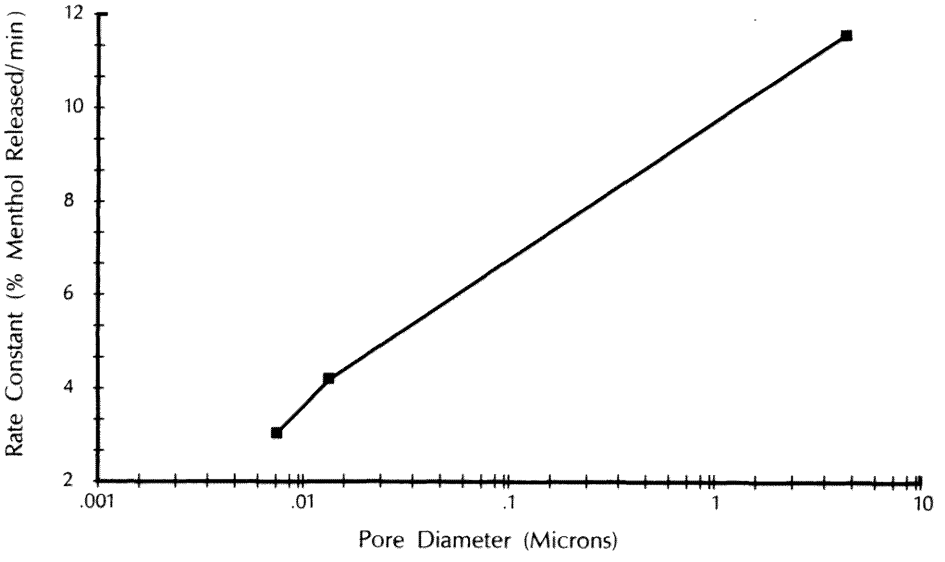

Figure 15.5 Effect of pore diameter on rate of release. Rates of release of menthol from Microsponge systems of same polymeric composition and particle size with varying pore diameters.

tive ingredient has been removed from the pore network. Increased cross-linking tends to slow down the rate of release (Fig. 6).

D. Monomer Composition

Selection of the monomer is dictated both by the characteristics of the active ingredient ultimately to be entrapped and by the vehicle into which it will be dispersed (Fig. 7). Polymers with varying electrical charges or degrees of hydrophilicity or lipophilicity may be prepared to provide flexibility in the release of such materials as lipids, humectants, moisturizers, sunscreens, vitamins, insect repellants, fragrances, and a variety of pharmacologically active ingredients. Once entrapped, these ingredients can be formulated into virtually any product form: powders, gels, ointments, lotions, creams, liquids.

VI. RELEASE MECHANISMS

A. Sustained or Time Release

In the development of a sustained-release Microsponge, many variables must be considered.