**polyelectrolyte network**

Polymer network containing ionic or ionizable groups in a substantial fraction of its constitutional units.

Notes:

1. A polyelectrolyte network is sometimes called a crosslinked polyelectrolyte. Use of the latter term is not recommended unless the polyelectrolyte network is formed by the crosslinking of existing polyelectrolyte macromolecules rather than by nonlinear polymerisation.

2. In contrast to a polyelectrolyte, a polyelectrolyte network is always insoluble, although swelling or contraction can occur when it is immersed in a solvent.

3. A polyelectrolyte network in contact with a solution of a salt is able to exchange counter-ions (cations or anions) with ionic species in the solution and act as an ion exchanger. Therefore, a polyelectrolyte network is frequently described as an ion-exchange polymer.

Source:

PAC, 2006, 78, 2067 *(Terminology of polymers containing ionizable or ionic groups and of polymers containing ions (IUPAC Recommendations 2006))* on page 2073