

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 non-linear 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