

migration current

The difference between the current that is actually obtained, at any particular value of the potential of the indicator or working electrode, for the reduction or oxidation of an ionic electroactive substance and the current that would be obtained, at the same potential, if there were no transport of that substance due to the electric field between the electrodes. The sign convention regarding current is such that the migration current is negative for the reduction of a cation or for the oxidation of an anion, and positive for the oxidation of a cation or the reduction of an anion. Hence the migration current may tend to either increase or decrease the total current observed. In any event the migration current approaches zero as the transport number of the electroactive substance is decreased by increasing the concentration of the supporting electrolyte, and hence the conductivity

Source:

PAC, 1985, 57, 1491 (*Recommended terms, symbols, and definitions for electroanalytical chemistry (Recommendations 1985)*) on page 1497