ACTIVITY COEFFICIENTS FROM ELECTROMOTIVE FORCE MEASUREMENTS

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• ABSTRACT:

The activity coefficients of HCl are determined by means of an electrochemical cell.

• TEXT REFERENCE:


• OTHER REFERENCES:

• GENERAL DESCRIPTION AND THEORY:

An electrochemical cell composed of a hydrogen electrode, a Ag,AgCl electrode with an HCl electrolyte is used to determine the activity coefficients of HCl. The emf of the cell is measured with a series of decreasing HCl concentrations. Then using an extrapolation method, the standard potential of the cell and the activity coefficients of the electrolyte can be determined.

• EQUIPMENT:

Potentiometer, hydrogen electrode, Ag,AgCl electrode, flasks, beakers, pipets.

• CHEMICALS:

Hydrogen gas, 0.1 M HCl

• LABORATORY PROCEDURE:

Follow the procedure described by Sime.

• CALCULATIONS:

The calculations are those described by Sime.

• LITERATURE VALUES: