

References:

- 1- G. Hills and F. Silva, Can. J. Chem., 59 (1981) 1835.
- 2- F. Silva, A. Hamelin and R. Parsons, Abstracts of the 34th I.S.E. Meeting, Erlangen, W. Germany, 1983, p.930
- 3- A. Hamelin, L. Stoicoviciu, F. Silva and M. J. Sottomayor, Abstracts of the 36th I.S.E. Meeting, Salamanca, Spain, 1985, p.9110.
- 4- F. Silva, M. J. Sottomayor and A. Hamelin, Abstracts of the International Conference on "Structure and Dynamics of Solid/Electrolyte Interfaces", Berlin, W. Germany, 1986.
- 6- A. Hamelin, L. Stoicoviciu and F. Silva, J. Electroanal. Chem., in press.
- 7- A. Hamelin, L. Stoicoviciu and F. Silva, J. Electroanal. Chem., in press.

The effect of temperature on the differential capacity of the interface between Mercury - and aqueous solutions of Manitol, Sorbitol and Dulcitol

F. Silva and Salomé Rodrigues
 Centro de Investigação em Química - Linha 3
 Faculdade de Ciências - UP
 4000-Porto
 Portugal

R. Peat and S. Shannon¹ reported that there was a marked difference in the differential capacity - potential curves, $C(E)$, of Hg in contact with two biologically important and isomer polyalcohols: manitol and sorbitol. The structure of dulcitol differs also from that of sorbitol only by the position of one hydroxyl group. A study of the adsorption of manitol, sorbitol and dulcitol on Hg from aqueous sodium chloride solutions in a range of solute concentrations and temperatures was then undertaken. The characteristics of adsorption at constant temperature was reported elsewhere² and here account is given on the effect of temperature on the differential capacity curves.

At constant concentration the effect of temperature on the differential capacity curves is similar for each compound, figs 1-a, b, e c, i.e. two regions of opposite temperature coefficients are discernible on the $C(E)$ curves, but the form of the curves remains the same.

The entropy of formation of the interface, S^* , in the presence of each polyalcohol was obtained after double integration of the values of the temperature coefficients of $C(q)$, and using as integration constant the temperature coefficient of the pzc³ and will be presented. The dependence of the charge of maximum entropy of formation on the nature of the polyalcohol will be discussed in relation with interfacial solvent properties.

References:

- 1- R. Peat and S. Shannon, J. Electroanal. Chem., 159 (1983) 229
- 2- F. Silva and Salomé Rodrigues, to be presented at the 38th I.S.E Meeting, Maastricht, The Netherlands, 1987.
- 3- G. Hills and F. Silva, Can. J. Chem., 59 (1981) 1835

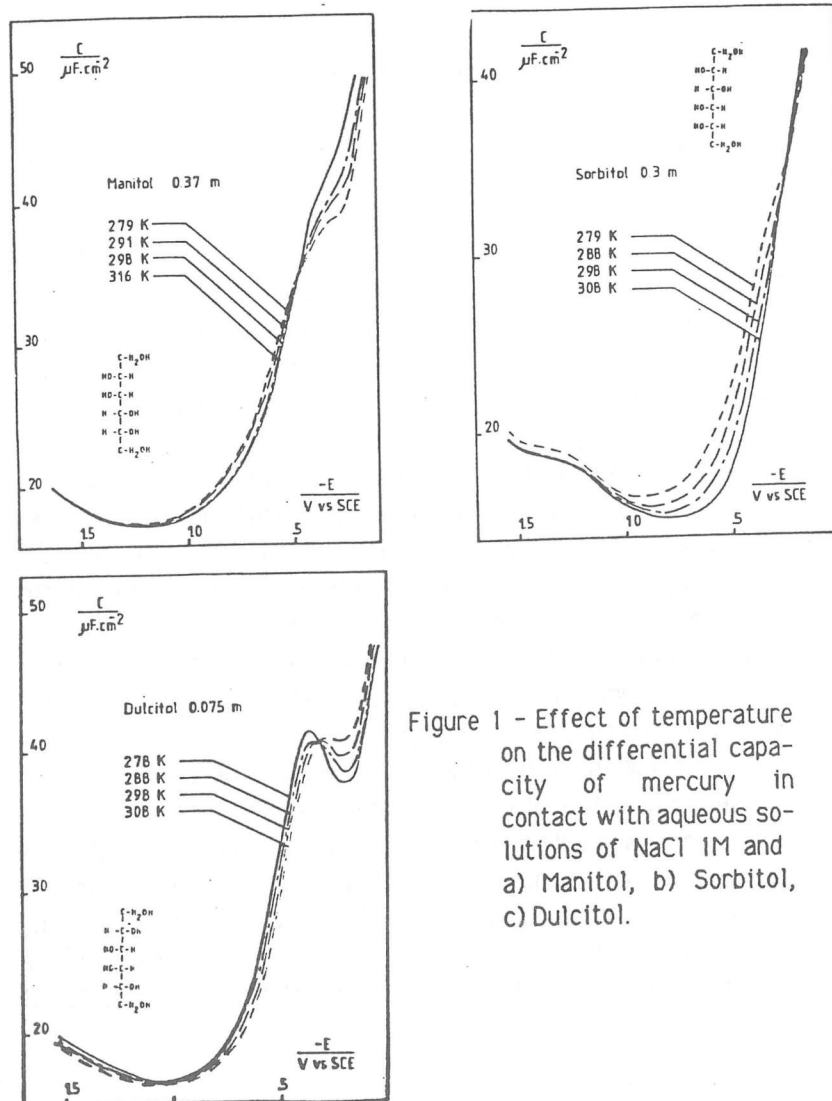


Figure 1 - Effect of temperature on the differential capacity of mercury in contact with aqueous solutions of NaCl 1M and a) Manitol, b) Sorbitol, c) Dulcitol.

KINETICS OF COPPER DISSOLUTION IN NaOH and KOH MELTS

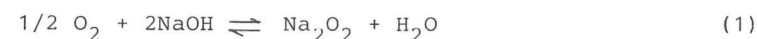
TSVETI TSVETKOFF, NIKOLA LINGORSKI,
HIGHER INSTITUTE OF CHEMICAL TECHNOLOGY
SOFIA, BULGARIA

The present work treats the kinetics and the mechanism of copper corrosion in alkaline NaOH and KOH melts at 550° C.

The experimental methods applied in this study are described in our previous work /1/.

These investigations resulted in the following conclusions:

- copper corrodes in NaOH and KOH melts with the oxygen from the air participating in the reaction:



with KO_2 concentration being greater; the rates of O_2 absorption in NaOH and KOH melts differ in almost two degrees,

- copper corrosion in alkali melts takes place with the participation of peroxide compounds:



which explains the decrease in copper corrosion rate in undewatered initial melts.

Our conclusions concerning the participation of alkaline metal peroxides in the corrosion process correspond to analogical conclusions done in works /2,3/.

REFERENCES:

1. Tsvetkoff T.B., Raicheff R., 34ISE Meeting, Ext. abst., Erlangen, BRD, 1983, 1, p.149
2. Ramel A., Krüger H., Werkstoffe an Korr., 1967, 18, p.193
3. Dmitruk B., Suschinsky N., Babitsch N., Cribkova W., Ukr.Chim.Soc., 1985, 51, p. 184