

**Electrochemical Characteristics of  
Solid State Mercury-Mercury Oxide Reference Electrodes**

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Solid state (Au)Hg|HgO reference electrode is prepared utilizing gold amalgam solid particles. Solid fine powder of (Au)Hg was prepared by chemical reduction of Au(III) with NaBH<sub>4</sub> followed by reduction Hg(II) in the presence of gold fine particle to give powdery gold amalgam. The powder was mixed with fine HgO powder in the presence of poly-vinyl chloride binder solution in N,N'-dimethylformamide. After the solvent was removed, the mixture was pressure molded to give physically stable (Au)Hg|HgO reference electrode material. The electrochemical characteristics of the electrode as reference were explored. The electrode can be used stably in the flow cell system of sodium hydroxide mobile phase such as electrochemical detection of carbohydrates in anion exchange separation.