

**Measurement of Oxygen Supersaturation in
the Vicinity of Porous Microfibrous Ni
Anodes During Water Electrolysis.**

Anand Sankarraj,¹ Bruce J Tatarchuk¹ and
Ronald Neuman¹

¹Auburn University
Ross Hall, Chemical Engineering Department,
Auburn, Al 36849
USA

A method for the determination of Supersaturation of oxygen in the vicinity of an O₂ evolving porous nickel microfibrous anode in alkaline solution was developed. With the help of a microsensor, the concentration of oxygen in the distance x from the anode was measured. The supersaturation was found to be 200 times the nominal oxygen saturation in water from atmospheric air, termed as the Oxygen Supersaturation Factor (7.8 mg/l = solubility of oxygen in water). The amount of oxygen supersaturation as a function of current density has been established for the porous nickel microfibrous electrodes.