
Abstract
The chlorine loss of electrolyzed oxidizing (EO) water was examined during storage under different light, agitation, and packaging conditions. The chlorine loss of pH-adjusted EO water was also examined. Under open conditions, the chlorine loss through evaporation followed first-order kinetics. The rate of chlorine loss was increased about 5-fold with agitation, but it was not significantly affected by diffused light. Under closed conditions, the chlorine loss did not follow first-order kinetics, because the primary mechanism of chlorine loss may be self-decomposition of chlorine species rather than chlorine evaporation. The effect of diffused light was more significant compared to agitation after two months of storage under closed conditions. The chlorine loss of EO water and commercial chlorinated water decreased dramatically with the increase of pH from the acidic (pH 2.5) to the alkaline (pH 9.0) region.