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THE PEROXYMONOCARBONATE ANIONS AS BLEACHING AGENTS. PART 1. RESULTS WITH MODEL COMPOUNDS AND CHEMICAL PU

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Abstract

The peroxymonocarbonate mono-anion (HCO_4^-) is generated when H_2O_2 is added to a H_2O_2 solution. The mono-anion is believed to have a pK_a value of 8. The mono-anion starts dissociating to the di-anion (CO_4^{2-}) at pH ca. 8. The mono-anion has electrophilic properties, while the di-anion should be a nucleophile. In the process such as soda/AQ, Na_2CO_3 could be obtained from the chemical carbonated with CO_2 from a flue gas stream to produce NaHCO_3 . In soda, Na_2CO_3 need to be purchased to generate the peroxymonocarbonate (PMC) and it can also be produced from the carbonation of solutions containing NaOH , Na_2CO_3 . One or both of the PMC anions was found to be effective in oxidizing ty