Effect of sodium hypochlorite on conversions of octyl-dimethyl-para-aminobenzoic acid

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ABSTRACT

The stability of octyl-dimethyl-para-aminobenzoic acid (OD-PABA) in water samples has been studied under the action of UV radiation and sodium hypochlorite (NaOCl). It was shown that OD-PABA is unstable in the presence of UV. It undergoes demethylation and decomposition to para-aminobenzoic acid. However, in the presence of NaOCl, chloro-organic derivatives are formed. The experiment was carried out on water samples with the known amounts of OD-PABA introduced. Irradiation of samples was performed by the use of a medium-pressure mercury lamp TQ 150 W. The products were identified using a gas chromatograph coupled with a mass spectrometry detector (GC–MS). Samples for analysis were prepared by a liquid–liquid technique. The mixture of ethyl acetate/n-hexane was applied as an eluant.

Keywords: UV filters; Octyl-dimethyl-para-aminobenzoic acid; Water samples; Chloro-organic products; Gas chromatography; Mass spectrometry

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