RINGKASAN

Proses klorinasi air kolam renang dengan kalsium hipoklorit, $Ca(OCl)_2$, bertujuan untuk menghindari pertumbuhan bakteri dan virus yang dapat dipindahkan melalui air. Proses klorinasi menuntun pada pembentukan senyawa hasil samping terhalogenasi, terutama kloroform.

Penentuan runutan kloroform dilakukan dengan ekstraksi cair-cair dengan menggunakan *n*-heksana dan analisis komposisinya dengan GC. Residu klor, salah satu faktor yang mempengaruhi pembentukan kloroform dianalisis sebelum dan sesudah proses desinfeksi dengan metoda iodometri. Residu klor naik setelah proses desinfeksi dari 0,23 – 1,03 mg/L dan turun setelah penambahan beberapa jam menjadi 0,99 mg/L. Hal tersebut tidak diimbangi dengan konsentrasi kloroform yang terus naik sehingga residu klor tidak mempunyai hubungan secara langsung dengan pembentukan kloroform. Hasil analisa menunjukkan bahwa konsentrasi kloroform meningkat sebelum proses desinfeksi yaitu 0,5 mg/L menjadi 22,2 – 28,1 mg/L sesudah desinfeksi.

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SUMMARY

Chlorination process of swimmingpool water using calsium hypochlorite, $Ca(OCl)_2$, is purposed to avoid the growth of bacteria and viruses that can be transported by water, meanwhile chlorination process leads to the formation of halogenated by-products, mainly chloroform.

Determination of trace chloroform in swimmingpool water was done by mean of liquid-liquid extraction method using hexane and determination of its structural elucidation using GC method, respectively. Chlorine residue determinations, one factor that affecting the forming of chloroform had been performed before and after desinfection processes using iodometric method. Chlorine residue was increased after desinfection process from 0.23 – 1.03 mg/L and decreased during desinfection process to 0.99 mg/L. It was not related with the increased chloroform concentration, so chlorine residue had no correlation with the forming of chloroform directly. The analysis results showed that chloroform concentration was increased after the desinfection process. Chloroform concentration before desinfection was 0.5 mg/L and it increased to 22.2 – 28.1 mg/L after desinfection.

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