# RINGKASAN

Udang merupakan salah satu penghasil devisa bagi negara Indonesia. Sebagai komoditi ekspor, udang diolah dengan membuang bagian kepala, ekor, kaki dan kulit. Hasil buangan itu disebut limbah industri udang. Limbah udang ternyata mengandung senyawa kitin. Kitin ditransformasi menjadi kitosan . Salah satu kegunaan kitosan adalah sebagai adsorben ion logam. Dalam penelitian ini, dilakukan pemanfaatan kitosan sebagai adsorben ion logam timbal.

Kitin diisolasi dari limbah udang putih (*Penaeus merguiensis*) melalui proses deproteinisasi, demineralisasi dan depigmentasi. Kitin ditransformasi menjadi kitosan melalui proses deasetilasi dengan menggunakan NaOH 50%. Kemampuan kitosan untuk mengadsorpsi ion logam timbal dilakukan dengan variasi waktu (20, 30, 40, 50 60 menit) dan variasi pH (3, 4, 5). Analisa ion logam timbal dilakukan dengan metode gravimetri.

Hasil penelitian ini menunjukkan bahwa kitosan mengandung 1,38% kadar abu, 8,98% kadar air dan titik leleh 264-266$^0$C. Analisa ion logam timbal menunjukkan bahwa semakin lama waktu kontak semakin banyak ion logam timbal yang dapat diserap sampai batas maksimum, kemudian mengalami penurunan. Kitosan menyerap ion logam timbal mencapai maksimal pada waktru kontak 40 menit dengan pH 5 sebesar 417,23 mg atau 40,27%.



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# SUMMARY

Shrimp is one of the devise productions for Indonesia. As export commotion, shrimp was processed with throwaway head, tail, feet, and skin of this shrimp. The throwing away production was called a shrimp industry waste. Shrimp waste contains chitin compound. Chitin was transformed into chitosan. One of the advantages of chitosan is used as adsorbent metal ion. In this experiment, uses chitosan as adsorbent lead metal ion.

Chitin was isolated from the white shrimp waste (*Penaeus merguiensis*) with deproteinisation, demineralization and depigmentation process. Chitin was transformed into chitosan trough deacetylation process with uses NaOH 50%. Ability of chitosan to adsorp the lead metal ion was performed with variation in time (20, 30, 40, 60 minutes) and pH (3, 4, 5). Analysis of lead metal ion by using gravimetric method.

This experiment showed that chitosan contained 1.38 % of ash, 8.98 % of water and had melting point at 264-266 °C. Analysis of lead metal ion showed that more contact time so much the lead metal ion that can be absorbed until maximal limited, and then till decrease. Chitosan adsorp the lead metal ion until maximal in the contact time of 40 minutes at pH 5 yielding 417.23 mg or 40.27 %.



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