

SUMMARY

PENGOLAHAN LIMBAH MINYAK GORENG DALAM PROSES BATCH MENGGUNAKAN METODE KOAGULASIFLOKULASI DAN ADSORBSI

COOKING OIL WASTE TREATMENT IN BATCH
PROCESS USING COAGULATION-FLOCCULATION
AND ADSORPTION METHOD

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Subject : Pembuangan Limbah

Keyword : kitosan; koagulan; adsorpsi; carbon aktif; minyak dan lemak

Description :

Dari hasil penelitian diketahui penambahan dosis kitosan berpengaruh pada removal minyak dengan besar removal 48.91% dengan konsentrasi 20 ml pada variasi limbah 70:30, 43.83 % dengan konsentrasi 40 ml pada variasi limbah 50:50 dan 34.85% dengan konsentrasi 40 ml pada variasi limbah 20:80. Pada proses adsorpsi, penambahan dosis berpengaruh terhadap removal minyak dengan besar prosentase 35.64 % dengan dosis 50 gr pada variasi limbah 70:30, 69.31% dengan dosis 50 gr pada variasi limbah 50:50, dan 52.88% dengan dosis 50 gr pada var limbah 20:80. pH optimum untuk proses koagulasi menggunakan kitosan terjadi pada pH 4 dengan % removal sebesar 70.79 % . pH optimum untuk proses koagulasi menggunakan karbon aktif terjadi pada pH 4 dengan % removal sebesar 71%. Model adsorpsi yang terjadi dalam penelitian ini adalah model adsorpsi isotherm Freudlich dengan persamaan $x/m = 0.69C^{-1.6179}$. Kombinasi proses koagulasi dan flokulasi dan adsorpsi mampu meremoval minyak sebesar 74.72% pada variasi limbah 70:30, 85.17% pada variasi limbah 50:50 dan 77.03% pada variasi limbah 20:80

Description Alt:

From research result known by the addition of dose kitosan have an effect with oil removal is 48,91% with the concentration 20 ml at waste variation 70:30, 43,83 % oil removal with concentration 40 ml at waste variation 50:50 and 34.85 % oil removal with concentration 40 ml at waste variation 20:80. In adsorption process, dose addition have an effect in oil removal is 35,64% with the activated carbon dose 50 gr at waste variation 70:30, oil removal 69,31 % with the dose of activated carbon 50 gr at waste variation 50:50, and oil removal 52,88 % with dose of activated carbon 50 gr at waste variation 20:80. Optimum pH to process coagulation use the chitosan became of the pH 4 by percent oil removal

equal to 70,79 %. Optimum pH to process the adsorbtion use the granular activated carbon became of pH 4 by percent removal equal to 70,29 %. Adsorbtion isotherm model that happened in this research is isotherm freudlich with the equation $x/m = 0,69 C^{-1,6179}$. Combination process coagulation-floculation and adsorbtion able to removal oil of equal 74,72 % at variation of waste 70:30, 85,17 % oil removal at waste variation 50:50 and 77,03 % at waste variation 20:80.

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Thank You,

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