

EFEKTIFITAS LARUTAN KAPUR [Ca (OH)₂] TERHADAP PENURUNAN KADAR
PHOSPHAT LIMBAH CAIR PADA UNIT PROSES PENGOLAHAN LIMBAH
CAIR(IPLC)RSUP Dr.SOERADJI TIRTO NEGORO KLATEN

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RSUP Dr.Soeradji Tirtonegoro Klaten adalah rumah sakit tipe B pendidikan mempunyai kapasitas tempat tidur 330 buah,dengan rata-rata BOR 68% (mei 2003).adanya dampak negatif yang diakibatkan dari kegiatannya maka RSUP Dr.Soeradji Tirtonegoro Klaten, telah membangun sebuah instalasi pengolahan limbah cair (IPLC),yang mengolah limbah cair sebanyak rata-rata 94,4%M³ perhari.

Kualitas effluen IPLC Tahun 2002,dari parameter sesuai dengan Kep.Men.LH No.58/Men.LH/12/95 tentang Baku Mutu Limbah Cair Bagi Kegiatan Rumah Sakit,Kadar Phosphat masih melebihi kadar yang diperbolehkan (2mg/L).mengingat hal tersebut dan memperhatikan dampak yang ditimbulkan akibat tingginya kadar Phosphat ,Maka penulis mencoba melakukan penelitian mengenai penurunan kadar phosphat Limbah cair RSUP Dr.Soeradji Tirtonegoro Klaten dengan menggunakan larutan kapur [Ca(OH)₂].

Tujuan penelitian ini adalah untuk mengetahui adanya perbedaan berbagai dosis larutan kapur,dan untuk mencari dosis efektif terhadap penurunan kadar phosphat limbah cair,menggunakan larutan kapur 2% dengan variasi dosis 15 ml/l,20 ml/l,30 ml/l,35 ml/l,dan 40 ml/l.

Penelitian ini bersifat eksperimen semu dengan rancangan *pretest-posttest* . dengan kelompok kontrol (*Randomized control-Group pretest-Posttest Design*) .Variabel bebas dalam penelitian ini adalah efektifitas dosis larutan kapur dan variabel terikat adalah penurunan kadar phosphat limbah cair.Berdasarkan hasil penelitian serta analisa data,dapat di simpulkan bahwa ada perbedaan yang bermakna secara statistik perlakuan pemberian larutan kapur 2% dari variasi dosis yang digunakan.Dosis paling efektif adalah 30 ml/l,seandainya dosis optimum untuk dapat diterapkan dilapangan adalah 28ml/l.

Sehubungan dengan kesimpulan tersebut diatas,maka penulis memberikan saran kepada pihak pengelola limbah cair,untuk melakukan pengolahan penurunan kadar phosphat dengan larutan kapur pada lokasi bak,setelah bak pengendapan II.

Kata Kunci: Limbah cair,phosphat dan larutan kapur

THE EFFECTIVITIES OF CALCIUM SOLUTION ($\text{Ca}(\text{OH})_2$) HOWARDS THE DECREASE OF THE PHOSPHATE CONTENT OF THE WASTE WATER IN THE UNIT OF WASTE WATER TREATMENT PROCESSING (IPLC) IN THE RSUP Dr.SOERADJI TIRTO NEGORO KLATEN

Dr. Soeradji Tirtonegoro Distric General Hospital, Klaten is the B type Hospital which has the capacities of bed 330 pieces, with the berth occupancy rate (BOR) 68% (may 2003). Realizing that there are negative impacts which may arise in the activities, it has been built on instalation of waste water treatment, processing waste water on everage $94,4 \text{ m}^3$ per day.

The effluent Quality of IPLC in 2002 based on the parameter of The SK MenLH No.58/MenLH/12/95 regarding the quality standart of the waste water for the hospital activities, the phosphat content is still beyond what is determined $8,33 \text{ mg/l}$. Remembering that and noting the impacts which arise, that is, the high level of phosphate consentration, the writer tries to carry out a risearch on the decriase of the phosphate consentration of the waste water in Dr. Soeradji Tirtonegoro Distric General Hospital, Klaten by using the calcium solotion ($\text{Ca}(\text{OH})_2$).

The objective of this research are to know the defferences of the calcium solution dosage, and to find out the effective dosage to decrease the phosphat content of the waste water treatment in Dr. Soeradji Tirtonegoro Distric Hosplital, Klaten, by using 2% of calcium solotion with the dosage variations 15 ml/l , 20 ml/l , 25 ml/l , 30 ml/l , 35 ml/l and 40 ml/l .

This research is a quasi experiment with the pretest posttest design. The independent Variables in this research are the effectiveness of calcium solution dosage and dependent variables, the decrease of phosphat content of waste water treatment in Dr. Soeradji Tirtonegoro Distric General Hospital, Klaten .

Based on the research result and the data analysis, it can be concluded that there are statistically meaningfull defferences in the use of calcium solution 2% from the dosage variation applied and the most effective dosage is 30 ml/l , while the optimal dosage which can be use is 28 ml/l .

Based on the research result and the data Analysis, it can be concluded that there are statistically meaningful differences in the use of calcium solution 2% from the dosage variation applied and the most effective dosage is 30 ml/l , while the optimal dosage which can be used is 28 ml/l .

Based on conclusion above, the writer suggests the management of waste water treatment in Dr. Soeradji Tirtonegoro Distric General Hospital, Klaten to make more prosessing unit, namely, the calcium solution tank wrich are equipped with concentration tanks which have athirty minute stop with the tank location after the second sediment tank, 2% consentration of the calcium solution with 28 ml/l dosage.

Keyword : waste water, phosphat and calcium solution