

PENGARUH BERBAGAI LAMA KONTAK AERASI MODEL PAYUNG PADA KOLAM INDIKATOR TERHADAP PENURUNAN KADAR AMONIAK (NH₃) LIMBAH CAIR

BASYIRATUL HALIMIYAH
E2A303035

Rumah Sakit Islam Surakarta (RSIS) merupakan rumah sakit type C dan mempunyai kapasitas tempat tidur 150 buah, dengan rata-rata BOR 62,14% (september 2005). (IPLC) yang mengolah limbah cair sebanyak 70,33 m³/hr. Adapun dampak amoniak terhadap kesehatan karena dapat bereaksi dengan *hemoglobine* dalam darah, sehingga darah tersebut tidak dapat mengangkut oksigen lagi. Kadar amoniak yang ada dikolam indikator IPLC RSIS adalah 0,85 mg/lt, tahun 2005 belum memenuhi standar Peraturan Daerah Propinsi Jawa Tengah Nomor 10 Tahun 2004, Khususnya kadar amoniak, adalah 0,1 mg/lt. Tujuan penelitian ini adalah untuk mengetahui pengaruh berbagai lama kontak aerasi model payung pada kolam indikator terhadap penurunan kadar amoniak (NH₃) limbah cair RSIS, mengukur kadar amoniak (NH₃) inlet, sebelum dan sesudah aerasi model payung, mengetahui perbedaan kadar amoniak (NH₃). Jenis penelitian adalah eksperimen semu, pengolahan data menggunakan uji t, uji anov dan uji LSD. Hasil penelitian dari pengukuran kadar amoniak sebelum dan sesudah aerasi model payung mengalami penurunan adalah lama kontak 12 jam dengan kadar amoniak 0,07 mg/lt, perbedaan kadar amoniak (NH₃) sebelum adalah 0,72 mg/lt dan sesudah aerasi model payung adalah 0,07 mg/lt. Perbedaan kadar amoniak limbah cair Rumah Sakit Islam Surakarta adalah 12 jam sebesar 23,4%. Adapun pengaruh berbagai lama kontak aerasi model payung pada kolam indikator terhadap penurunan limbah cair RSIS dengan kadar amoniak minimum 0,07 mg/lt dan maksimum 0,64 mg/lt. Bagi pengelola IPLC khususnya operator IPLC hendaknya dilakukan penambahan lama kontak dari 10 menjadi 12 jam.

Kata Kunci: Limbah cair, Aerasi Model Payung, Kadar

Surakarta Islamic Hospital (RSIS) is type C hospital and have bed capacities 150, with BOR average is 62,14% (September 2005). Surakarta Islamic Hospital have a Liquid Waste Processing Installation (IPLC) which managing liquid waste counted 70,33 m³/day. As for ammonia impact to health, because it can reacting with haemoglobin in blood, so that blood can not transporting oxygen again. Ammonia rate which in indicator pool of IPLC in RSIS is 0,85 mg/lit, in 2005 not yet fulfilled standard by Law of Province Central Java Number 10 Year 2004, specially ammonia rate, is 0,1 mg/lit. This research target is to know influence of various duration aeration contact with umbrella model at indicator pool to degradation of ammonia rate (NH₃) of liquid waste in RSIS, measuring ammonia rate (NH₃) inlet, before and after umbrella model aeration, knowing difference of ammonia rate between duration aeration contact with umbrella model which most optimal, and to analyze difference of umbrella model aeration to degradation of ammonia rate (NH₃). Type of the research is quasi-experimental, data processing use t-test, anova test and LSD test. Research result of measurement of ammonia rate before and after umbrella model aeration which experience degradation is contact duration 12 hours with ammonia rate 0,07 mg/lit, difference of ammonia rate (NH₃) before aeration is 0,72 mg/lit and after model umbrella aeration is 0,07mg/lit. Difference of ammonia rate (NH₃) between most optimal contact duration to degradation of ammonia rate of liquid waste in Surakarta Islamic Hospital is 12 hours equal to 23,4%. As for influence various duration aeration contact with umbrella model at indicator pool to degradation of liquid waste in RSIS with minimum ammonia rate 0,07 mg/lit and maximum 0,64 mg/lit. For manager of IPLC, especially of IPLC operator shall make addition of contact duration from 10 hours become hours.

Keyword : Ammonia, Liquid Waste, Umbrella Model Aeration, Ammonia Rate