Politeknik Kesehatan Kemenkes Bandung
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Abstrak

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PENGARUH VARIASI BERAT RESIN *ION EXCHANGE* TERHADAP PENURUNAN pH AIR LIMBAH PRODUKSI DI PT. BETON ELEMENINDO PERKASA

viii + 60 Halaman + 9 Tabel + 10 Gambar + 4 Lampiran

Limbah cair adalah cairan buangan yang berasal dari rumah tangga, perdagangan, perkantoran, industri maupun tempat-tempat umum lainnya yang biasanya mengandung bahan-bahan atau zat-zat yang dapat membahayakan kesehatan atau kehidupan manusia serta mengganggu kelestarian lingkungan hidup. Salah satu permasalahan yang dialami oleh PT. Beton Elemenindo Perkasa yaitu tingginya nilai pH air limbah produksi yang tidak memenuhi syarat. Salah satu cara untuk mengurangi pH adalah dengan metode *ion exchange*. Penelitian ini bertujuan untuk mengetahui variasi berat resin *ion exchange (anion exchanger)* pada instalasi *ion exchange* terhadap penurunan pH air limbah. Jenis penelitian ini adalah penelitian eksperimen. Perlakuan yang digunakan adalah variasi berat resin anion 250 gr, 300 gr dan 350 gr. Populasi penelitian yaitu seluruh air limbah produksi di PT Beton Elemenindo Perkasa. Adapun sampel pada penelitian ini yaitu sebagian air limbah produksi sebanyak 141.3 liter untuk 18 kali perlakuan (6 perlakuan setiap variasi). Teknik pengambilan sampel dilakukan secara *grab sampling.* Teknik pengumpulan data dilakukan dengan cara pengukuran dan pemeriksaan laboratorium. Analisis data dilakukan menggunakan uji univariat dan uji bivariat berupa uji *One Way Anova*. Hasil penelitian menunjukan bahwa ada perbedaan berbagai variasi berat berat resin pada penurunan pH air limbah produksi, dimana P value < α (0,03 < 0,05). Disarankan kepada PT. Beton Elemenindo Perkasa agar melakukan metode *ion exchange* untuk menurunkan pH air limbah.

DAFTAR PUSTAKA : 22 (1985 – 2020)
KATA KUNCI : pH air limbah produksi, resin anion, *ion exchange*, penurunan pH air limbah

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Abstract

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EFFECT OF WEIGHT DIFFERENCE OF ION EXCHANGE RESIN TOWARDS REDUCTION OF pH PRODUCTION WASTEWATER AT PT. BETON ELEMENINDO PERKASA

viii + 60 Pages + 9 Tables + 10 Images + 4 Attachments

Wastewater is waste fluid derived from households, trade, offices, industries and other public places that usually contain materials or substances that can harm human health or life and interfere with environmental sustainability. One of the problems experienced by PT. Beton Elemenindo Perkasa is the high pH value of ineligible production wastewater. One way to reduce pH is by the ion exchange method. This research aims to determine the variation in the weight of ion exchanger resins (anion exchangers) in ion exchange installations against the decrease in wastewater pH. This type of research is experimental research. The treatment used is a variation in the weight of anion resin 250 gr, 300 gr and 350 gr. The research population is all wastewater production at PT Beton Elemenindo Perkasa. The sample in this research is part of wastewater production as much as 141.3 liters for 18 treatments (6 treatments per variation). Sampling techniques are done by grab sampling. Data collection techniques are carried out by means of measurement and laboratory examination. Data analysis was conducted using univariate test and bivariate test in the form of One Way Anova test. The sample in this research is part of wastewater production as much as 141.3 liters for 18 treatments (6 treatments per variation). Sampling techniques are done by grab sampling. Data collection techniques are carried out by means of measurement and laboratory examination. Data analysis was conducted using univariate test and bivariate test in the form of One Way Anova test. The results showed that there were differences in various variations in resin weight in the decrease in wastewater pH production, whereas P value < α (0.03 < 0.05). Recommendation to PT. Beton Elemenindo Perkasa to perform ion exchange method to reduce wastewater pH.

REFERENCES : 22 (1985 – 2020)
KEY WORDS : pH wastewater production, anion exchanger, ion exchange, pH wastewater reduce