

**PENGGUNAAN ZnO/ZEOLIT ALAM CLINOPTILOLIT-Ca SEBAGAI
PENDEGRADASI AIR LIMBAH PERTANIAN TERHADAP NITRAT DAN NITRIT
SECARA FOTOLISIS**

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ABSTRACT

UTILIZATION OF ZnO/ ZEOLITE CLINOPTILOLITE-Ca AS A AGRICULTURAL WASTEWATER DEGRADATION OF NITRATE DAN NITRITE USING PHOTOLYSIS METHOD

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Research on the use of ZnO/zeolite clinoptilolite-Ca as a degradation of agricultural waste such as nitrate and nitrite pH by photolysis using a UV lamp (Luster BLB 10 W-TB) at 365 nm. The method of analysis was carried out by UV-Vis spectrophotometer. The results showed that the degradation of agricultural wastewater by photolysis without a catalyst decreased the concentration of nitrite from 0.424 mg/L to 0.370 mg/L during an irradiation time of 75 minutes, while the concentration of nitrate decreased from 11.409 mg/L to 9.762 mg/L during an irradiation time of 90 minute. Degradation of agricultural wastewater using 0.6 g of ZnO/zeolite catalyst decreased the concentration of nitrite from 0.424 mg/L to 0.060 mg/L, using 0.023 g ZnO the concentration of nitrite decreased to 0.120 mg/L, using 0.576 g of zeolite the concentration of nitrite decreased to 0.180 mg/L during an irradiation time of 75 minutes. Degradation of agricultural wastewater using 0.8 g ZnO/zeolite catalyst decreased the nitrate concentration from 11.409 mg/L to 1.543 mg/L, using 0.030 g ZnO the nitrate concentration decreased to 3.160 mg/L, using 0.769 g zeolite the nitrate concentration decreased to 3.931 mg/L during 90 minutes of irradiation. Based on these data, it can be said that the ZnO catalyst supported by zeolite can be used in the degradation process.

Keywords : Degradation, Nitrate, Nitrite, ZnO/zeolite, Photolysis

