



The Investigation of Biodegradability of Dissolved Organic Nitrogen in Effluent of Wastewater Treatment Plant[#]

Sezen Kucukcongar^{1*}, Ayse Sevil²

¹*Selcuk University, Department of Environmental Engineering, Konya, TURKEY;* ²*EnviroLab Measurement and Analysis Laboratory, Konya, TURKEY*

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Abstract: Dissolved nitrogen in wastewater treatment plant (WWTPs) effluent includes inorganic (ammonia, nitrite and nitrate nitrogen) and organic forms. Dissolved organic nitrogen (DON) becomes an important portion of WWTP effluents, because of high inorganic nitrogen removal is able to achieve in these plants. Biodegradable dissolved organic nitrogen (BDON) is a portion of DON that can be mineralized by an acclaimed mixed bacterial culture. In this study, the fate of DON and BDON in effluent of wastewater treatment plant including 4-stage Bardenpho process was investigated. DON values were determined between 4.1-19.7 mg/L in effluent. The biodegradability of WWTP effluent samples were determined by using a mixed bacteria culture and identified between 41%-98% for different sampling time. BDON/total dissolved nitrogen ratio was found in 7%-81% ranges.

Keywords: *Dissolved organic nitrogen, biodegradable dissolved organic nitrogen, effluent of wastewater treatment plant.*

* Corresponding E-Mail: ssari@selcuk.edu.tr; Tel: 00903322232076; Fax: 00903322410635

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