

FORMATION OF THE ACTIVATED SLUDGE BIOCECENOSIS DURING LANDFILL
LEACHATE PRE-TREATMENT IN SBR

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Abstract: It has been proved that at the established SBR technological regime, 74–71% effectiveness of the removal of impurities expressed as COD (in the influent 955–1059 mg $O_2 \cdot dm^{-3}$, respectively) can be obtained at Bx 0.40–0.45 mg $COD \cdot mg^{-1} \cdot d^{-1}$. Ammonium nitrogen, in the concentration of up to 292 mg $NH_4-N \cdot dm^{-3}$ was removed in 93% at Bx 0.40–0.96 mg $COD \cdot mg^{-1} \cdot d^{-1}$. The simultaneous denitrification described by 93% effectiveness of total nitrogen removal occurred, too. Activated sludge had the attributes of an inengaged sludge in leachates pretreatment at Bx between 0.40–0.45 mg $COD \cdot mg^{-1} \cdot d^{-1}$. Its biocenosis consisted of zoogleal and filamentous bacteria, protozoa *Mastigota* nd., *Diffflugia* nd., *Aspidisca* sp., *Lionotus* sp., *Oxytricha* sp., *Opercularia* sp., *Tokophrya* sp. and rotifera. At the critical values of Bx (0.96–1.64 mg $COD \cdot mg^{-1} \cdot d^{-1}$), when leachates pretreatment effectiveness sharply dropped, biocenosis of activated sludge consisted only of zoogleal and filamentous bacteria, hyphae fungi, *Mastigota* nd. and *Opercularia* sp.