

Homework - 1

Consider the treatment of a wastewater with the following composition:

- Sucrose ($C_{12}H_{22}O_{11}$) = 380 mg/l, $Q = 250 \text{ m}^3/\text{d}$
- Formic acid (CH_2O_2) = 430 mg/l, $Q = 100 \text{ m}^3/\text{d}$
- Acetic acid ($C_2H_4O_2$) = 980 mg/l, $Q = 150 \text{ m}^3/\text{d}$

- Determine the final concentration of the wastewater in terms of COD.
- Determine the maximum theoretical CH_4 production, assuming the yield coefficients for acidogenic bacteria ($Y_{\text{acid}} = 0,15$) and methanogens ($Y_{\text{methane}} = 0,03 \text{ gCOD}_{\text{cell}}/\text{gCOD}_{\text{rem.}}$)