An Integrated Solution for Hazardous Industrial Wastewater Mixture (HIWM)

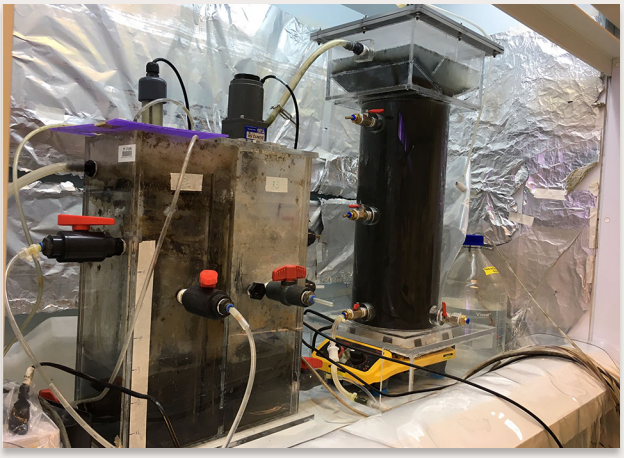
Technology Overview

The integrated technology of HIWM treatment includes advanced oxidation process (AOP), anaerobic and aerobic biological treatment processes to achieve the efficient treatment of HIWM.

Firstly, Fenton Oxidation is chosen as AOP pretreatment before biological processes. Through it, the recalcitrant organic matters present in HIWM are broken down into simpler and more easily biodegradable substances. The biodegradability of the wastewater stream is greatly improved.

Secondly, anaerobic fermentation by upflow anaerobic sludge blanket (UASB) is utilized to lessen the high total organic strength of HIWM to an acceptable level before aerobic process. Meanwhile, the valuable methane gas is produced for energy compensation.

Thirdly, aerobic biodegradation by sequencing batch reactor (SBR) works as a control step maximally to decompose the residual organics in the effluent of UASB and remove the excess nutrients to meet the discharging limit.



Features & Specifications

The integrated technology of HIWM treatment includes advanced oxidation process, anaerobic and aerobic biological treatment processes to achieve the efficient treatment of HIWM. Under the optimized condition, chemical oxygen demand (COD) removal of 83% was achieved. And biological oxygen demand (BOD)/COD ratio was improved from 0.56 to 0.83.

Customer Benefits

The integration of the facilities for UASB, SBR and Fenton oxidation process can be easily achieved, without significant increase in cost. These will greatly benefit waste management companies through improving treatment efficiency and reducing treatment cost.

Potential Applications

For the treatment of various industrial wastewater with high organic content or recalcitrant compounds.

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