

Improving the anaerobic treatment of wastewater with high content of total suspended solids



Introduction

Anaerobic digestion is a bioprocess in which organic matter is converted into biogas, a mixture of methane, carbon dioxide, hydrogen sulfide, and other gases. Currently, anaerobic digestion offers a great potential for the treatment of several types of wastewaters, including those coming from different industrial activities. The development of granular sludge anaerobic reactors such as the UASB, EGSB, or internal recirculation reactors, boosted the application of anaerobic technology in the industrial sector.

However, some characteristics in industrial wastewater hamper the process, making it unsuitable for the use of granular sludge anaerobic reactors. A clear example is wastewater with high concentrations of total and volatile biodegradable suspended solids. Therefore, it is important to determine new strategies and bioprocesses that boost application of anaerobic treatment in different types of industrial wastewater.

Objective

The goal of this internship is to improve the anaerobic degradability of different types of industrial wastewaters with a high content of total suspended solids. During this internship you will be responsible for conducting a review of the different technologies and bioprocesses that can be applied. Using data from this review you will set up an experimental test plan and execute batch tests investigating the anaerobic digestion of selected substrates/wastewaters. With these results you will make a technical and economical evaluation of the selected technologies.

#missionwater



Internship specifications

Type of education: BSc or MSc Chemical, (Bio)Process or Environmental Engineering

Supervisor: Nadine Boelee

Location: Doetinchem

Duration: 4 – 6 months

Application

If you are interested in this internship at Nijhuis Saur Industries please send the following to Iñigo De Eguren at Internship.NWT@nijhuisindustries.com:

- your motivation
- CV
- the period and duration of your internship