Ozonation for micropollutant removal

Introduction

Many micropollutants are poorly degraded in conventional wastewater treatment plants. This results in negative effects to the receiving water bodies due to chronic exposure at low concentrations. Micropollutants are therefore seen as threat to aquatic ecosystems and to the safety of drinking water resources. This has resulted in increasing public awareness and concern for micropollutants and a growing interest in micropollutant removal. Ozonation and other oxidation technologies are applied as chemical free wastewater treatment to remove medicines and micropollutants from wastewaters.

The Netherlands have joined the quest for improvement of the quality of their water, by stimulating the implementation of full-scale treatment at specific hot spot locations. These selected wastewater treatments should reduce at least 70% of the micropollutants. The first full-scale ozonation treatment of municipal wastewater effluent for micropollutant removal in the country has been built by Nijhuis Saur Industries and is in operation since 2023.

Objective

The goal of this internship is to develop and optimize our oxidation installation for the removal of micropollutants from wastewater. The internship project will be carried out by performing a series of laboratory experiments to find the optimal operational conditions and compare this to the full scale ozone systems. Furthermore, investigating process optimizations will be part of the assignment.

Internship specifications

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