



Project 2019.0264

Reuse of rinse water

AW Machinery develops and builds washing units for cleaning underground containers, among other things. Every day, each unit consumes 3,200 to 6,000 litres of water. The wash unit has a load of 3,200 litres of water available and a dirty water storage of 3,200 litres. Because the containers have all kinds of dirt, the contaminated rinse water consists of different components, such as dissolved organic compounds, dissolved metals and undissolved material. The rinsing water that is released during cleaning is contaminated and therefore cannot simply be discharged into the sewer.

Facts

Project number:

2019.0264

Project name:

Reuse of rinse water

Customer: AW Materieel

Students: Marin Middel

Others involved: Bob van

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(Researcher CEW)

This means that it is often necessary to drive back and forth to discharge the rinsing water responsibly and to refuel clean water. This is accompanied by unnecessary diesel consumption and CO² emissions. From the point of view of sustainability, AW Machinery has therefore asked CEW to determine the chemical and biological composition of the contaminated rinse water.

Objective

The purpose of this research is to provide AW Materieel with information about which small-scale treatment systems are available to safely reuse rinse water, so that the use of clean water, the number of discharges of waste water, and the amount of CO² emissions can be reduced. A second goal is to investigate the possibilities for discharging (purified) rinsing water into the sewer.

Method of approach

Research is being done into whether there is a suitable small-scale treatment system for the rinsing water. Part of this research is consulting scientific literature, so that a comprehensive overview can be made of available technologies. The selected technologies are ranked by efficiency, format, complexity and energy.

Based on the rankings, a market scan is performed for the top three technologies to collect information about technology developers and suppliers. A criteria analysis is made of this data.

Results

The result of phase 1a is a recommendation of technologies that are demonstrably suitable for the treatment of rinsing water.

