Quality of greywater from a city district before and after treatment in a green wall

SND-ID: 2023-7-1. **Version**: 1. **DOI**: https://doi.org/10.5878/h5w8-ak85

Download data

greywater_quality.csv *(20.04 KB)*

greywater_quality.xlsx *(34.41 KB)*

Associated documentation

Study_Description_pdfa.pdf *(486.99 KB)*

Study_Description.docx *(281.02 KB)*

Download all files

2023-7-1-1.zip *(~822.46 KB)*

Citation

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Principal's reference number

1773284

1773279

Description

The dataset presented here consists of raw data on the quality of influent greywater generated from a city district with 800 PE (population equivalent) and the effluent quality of greywater after treatment using a green wall. Five natural filter materials (pumice, biochar, hemp fiber, spent coffee ground, and composted fiber soil) were used in the green wall and tested for three hydraulic loading rates (54, 108 and 216 l/m2/d). The influent and effluent samples were taken manually between November 2021

and March 2022 and were analyzed for organic material, nutrients, pathogens, anionic surfactants, salt and microplastics. Supporting parameters e.g. suspended solids and pH, are also included in the dataset. Further, for microplastics, results from blank samples are included. This dataset was used to evaluate the treatment efficiency of the filter materials at different hydraulic loading rates.

1. Study_Description: This file includes the summary of the research study, data collection and the standard analytical methods used for analyzing different parameters.
2. greywater_quality: The influent and effluent concentrations of all parameters analyzed during all sampling events.

Data contains personal data

No

Language

English

Data format / data structure

Numeric

Text

Data collection 1

- Mode of collection: Physical measurements and tests
- Description of the mode of collection: Manual sampling of influent and effluent greywater
- Data collector: Luleå University of Technology
- Source of the data: Physical objects

Geographic spread

Geographic location: Sweden, Helsingborg Municipality

Geographic description: The data were collected from the test facility RecoLab in Helsingborg, which receives source-separated greywater from a city district with 800 PE (population equivalent). The experiment with the green wall was carried out inside RecoLab.

Responsible department/unit

Department of Civil, Environmental and Natural Resources Engineering

Contributor(s)

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Funding 1

- Funding agency: Swedish Environmental Protection Agency
- Funding agency's reference number: 208-0182-18
- Project name on the application: µrban plastics - Sources, sinks and flows of microplastics in the urban environment

Funding 2

- Funding agency: Swedish Research Council Formas
- Funding agency's reference number: 2019-01903
- Project name on the application: From grey to blue-green: Decentralized grey water treatment for use in blue-green urban environments

Research area

Environmental engineering (Standard för svensk indelning av forskningsämnen 2011)

Environmental management (Standard för svensk indelning av forskningsämnen 2011)

Water treatment (Standard för svensk indelning av forskningsämnen 2011)

Keywords

Water quality, Phosphorus, Microplastics, Biochar, Nitrogen, Pathogens, Greywater, Surfactants, Microplastics, Surfactants, Gråvatten

Publications

Removal of Microplastics from Greywater Using a Green Wall Treatment System. In 17th International Conference on Wetland Systems for Water Pollution Control: Conference Proceedings, 2022, p. 505-508

M. Sami, A. Hedström, E. Kvarnström, D.T. McCarthy, I. Herrmann,
Greywater treatment in a green wall using different filter materials and hydraulic loading rates,
Journal of Environmental Management,
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DOI: https://doi.org/10.1016/j.jenvman.2023.117998

If you have published anything based on these data, please notify us with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Accessibility level

Access to data through SND
Data are freely accessible

Use of data

Things to consider when using data shared through SND

License

CC BY 4.0

Versions

Version 1. 2023-04-28

Contact for questions about the data

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Download metadata

DataCite

DDI 2.5

DDI 3.3

DCAT-AP-SE 2.0

JSON-LD

PDF

Citation (CLS)

File overview (CSV)

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