Data Management Plan - final

Deliverable D6.5, WP6

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Update approved by	Barbara Wendler (DVGW-TUHH)

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History of Versions		
Version	**Publication Date**	**Change**
0.1	09.04.2026	First draft
0.2	20.04.2026	Internal review
0.3	23.04.2026	Draft for approval
1.0	30.04.2026	Sent to Commission
1.1	04.06.2026	Final review
2	24.06.2026	Sent to Commission

History of Changes	
Date/Section	**Nature of change and reason**
Page 10, Paragraph 3.2.1 “Repositories”	Specification of “some data” to “LC-FT-ICR-MS data has been deposited on the UFZ archive system”.
Page 17/18: Table 1	Dataset #13 (D3.3) has been completed with a title “SafeCREW risk-based water management tool”, publication date (18.05.2026) and “Restricted”. This was updated after the submission of the final DMP.
Page 24, Table 3	#19 was corrected with the DOI referring to all versions, and publication date added

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Abstract

The data management plan (DMP) ensures that SafeCREW's data follows the FAIR guidelines and adheres to the Guidelines on the Rules on the Open Access to Scientific Publications and Open Data Access to Research Data in Horizon Europe. This document is the final DMP of SafeCREW and summarizes the data management and datasets that have been created.

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Abbreviations

BPA	Bisphenol A
CC0	Creative Commons Public Domain Dedication
CC BY	Creative Commons Attribution International Public Licence
CS#2, CS#3	Case study #2, case study #3
DBP	Disinfection by-product
DBPFP	Disinfection by-product formation potential
DMP	Data Management Plan
DOC	Dissolved organic carbon
DOI	Digital Object Identifier
DWDN	Drinking water distribution network
DWSS	Drinking water supply systems
DWTP	Drinking water treatment plant
EC	European Commission
FAIR	Findable, Accessible, Interoperable, Reusable
GA	Grant Agreement
GC	Gas chromatography
HAA	Haloacetic Acids
IPR	Intellectual Property Rights
LC-FT-ICR-MS	Liquid chromatography Fourier-transform ion cyclotron resonance mass spectrometry
LC-OCD	Liquid chromatography – organic carbon detection
NOM	Natural organic matter
OAI-PMH	Open Archives Initiative Protocol for Metadata Harvesting
PI	Persistent identifier
THM	Trihalomethane
TOC	Total organic carbon
URI	Uniform resource identifier
WP	Work package

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1 Introduction

This document is the final version of SafeCREW's Data Management Plan (DMP), of which two previous versions exist (initial – D6.2 in M6, and midterm – D6.4 in M30). It is part of Task 6.2 of Work Package 6 (WP6) "Management". The DMP ensures that SafeCREW's data follow the FAIR guidelines and adheres to Rules on the Open Access to Scientific Publications and Open Data Access to Research Data in Horizon Europe.

The initial and midterm DMP served as guideline and agreement for project partners on how to deal with their data created during research activities. This final DMP additionally summarizes the datasets and publications that have been used or created and published during the project.

SafeCREW is a Horizon Europe funded research and innovation action that dealt primarily with aspects of maintaining high drinking water quality in Europe. In particular the research driven work packages (WPs) created new datasets, but also used existing open-source data. The project has thus an interest in providing its own data as open as possible. However, a few restrictions apply as the project partners have worked with samples from drinking water treatment and distribution, which is sensitive information.

1.1 Open Access to Scientific Publications and Open Data Access to Research Data

Open science is a policy priority for the European Commission. Open science[1] is an approach to research based on open cooperative work that emphasizes the sharing of knowledge, results and tools as early and widely as possible. It is mandatory under Horizon Europe, and it operates on the principle of being 'as open as possible, as closed as necessary'. 'As open as possible, as closed as necessary' means that results and data may be kept closed if making them public in open access is against the researcher's legitimate interests. Examples include to commercially exploit their research results, or if it is against any obligations mentioned in the Grant Agreement (e.g., personal data protection).

The Specific Rules for Open Science and Open Research Data Management refer to Article 17 of the SafeCREW Grant Agreement (GA) and are set out in Annex 5 (p. 169-171 GA). Open science requires open access publications and to make research data as open as possible and as closed as necessary.

Open access means the provision of online access to scientific information free of charge. This shall result in more efficient science and innovation. Open access to scientific research refers to two categories:

- Peer-reviewed scientific publications (like research articles)
- Scientific research data (in particular data underlying these publications)

The Specific Rules in Annex 5 of the GA define the obligations for SafeCREW beneficiaries with respect to peer-reviewed scientific publications and scientific research data. In particular, beneficiaries must ensure that:

- a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication is deposited in a trusted repository latest at the time of publication and
- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights.

[1]The text is based on the guidance of the European Research Executive Agency (REA) on Open Science in Horizon Europe (https://rea.ec.europa.eu/open-science_en) and on Annex 5 of the SafeCREW GA referring to Art 17 GA, p. 169-171).

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The Specific Rules also define obligations regarding information about related research output and the specification of metadata (see the GA for details).

Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Regarding the research data management, the beneficiaries must manage the digital research data generated in the action ('data') responsibly, in line with the FAIR principles and by taking all of the actions listed in the Specific Rules referring to Article 17 GA. These actions comprise:

- the establishment of this Data Management Plan and its regular updates;
- depositing the data in a trusted repository as soon as they are validated as laid down in this DMP;
- ensuring open access to the deposited data via the repository as soon as possible after the validation, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights, following the principle 'as open as possible as closed as necessary'.

'As open as possible as closed as necessary' may include exceptions from the principle of Open Research Data Access, if

- it is against the beneficiary's legitimate interests, including regarding commercial exploitation, or
- it is contrary to any other constraints, as they are justified in section 3.2.1 of this DMP.

The existing rules on the metadata of SafeCREW's deposited data are specifically described in section 2 of this DMP.

1.2 FAIR guidelines

For the management of research data, the FAIR guidelines were described to ensure open access for research data. FAIR stands for:

- Findable
- Accessible
- Interoperable
- Re-usable

A more detailed description of the FAIR principles can be found in Figure 1 or on www.go-fair.org.

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Box 2 | The FAIR Guiding Principles

To be Findable:
F1. (meta)data are assigned a globally unique and persistent identifier
F2. data are described with rich metadata (defined by R1 below)
F3. metadata clearly and explicitly include the identifier of the data it describes
F4. (meta)data are registered or indexed in a searchable resource

To be Accessible:
A1. (meta)data are retrievable by their identifier using a standardized communications protocol
A1.1 the protocol is open, free, and universally implementable
A1.2 the protocol allows for an authentication and authorization procedure, where necessary
A2. metadata are accessible, even when the data are no longer available

To be Interoperable:
I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles
I3. (meta)data include qualified references to other (meta)data

To be Reusable:
R1. meta(data) are richly described with a plurality of accurate and relevant attributes
R1.1. (meta)data are released with a clear and accessible data usage license
R1.2. (meta)data are associated with detailed provenance
R1.3. (meta)data meet domain-relevant community standards

Figure 1: Description of the FAIR guidelines described by Wilkinson et al., 2016 (DOI: 10.1038/sdata.2016.18).

This document follows the template provided by the European Commission on DMP structure and DMPOnline (https://dmponline.dcc.ac.uk/). It will describe the type of data generated in the SafeCREW project, where it will be deposited and how FAIR guiding principles are kept.

2 Data Summary

2.1 Type of data created within the SafeCREW project

As the SafeCREW project dealt with drinking water quality, most research data is related to drinking water quality parameters. The categories of parameters were the following:

- Water quality parameters from four case study sites (chemical, microbiological, physical data, geo-location), collected as grab samples or online monitoring
- Research data from lab experiments (chemical, microbiological, physical data)
- Correlations between parameters feeding into models and software

More specifically, research data created during the project were:

- NOM analyses (LC-OCD, Fluorescence spectroscopy, PARAFAC, LC-FT-ICR-MS)
- Microbiological analyses (Flow cytometry, plate counts, indicator organisms)
- DBP analyses (THMs, HAAs, novel DBPs)
- Physicochemical water quality data (pH, chlorine, turbidity, conductivity, hydraulics)
- Toxicity data, BPA analyses

External and open-source data that were re-used:

- Satellite data
- Historical water quality parameters from participating water works

From existing and generated data, correlations between various parameters were analysed and models and software have been created based on that data.

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2.2 Data formats

Most chemical and physical parameter data has been generated in table format (.xlsx, .csv, .txt, .asc, .fcs), whereas reports and papers are in text or table documents (.docx, .pdf, .xlsx) and mathematical models and software are in text code files (.txt, .r, .md) or python code (.py). To ensure compatibility with long-term archives and usability, the data was preferentially stored additionally as pdf/a, txt, asc or xml for documents, wav for audio and tiff/tif for images.

Online at Zenodo there are about 3 GB of data related to SafeCREW.

2.3 Usage of existing data

For some tasks, historic large data sets from case study sites (e.g., water quality and quantity parameters), open-source weather (temperature, precipitation, etc.) and satellite imagery data were used for model calibration and tools development, and climate projections (e.g., precipitation, water and air temperatures, water availability, etc.) to define future scenarios. These data has been previously validated by the owner.

This existing data was used to increase the knowledge on correlation between parameters and deducing consequences. The weather and satellite data was exported from on-line and open-source databases (such as XEMA (meteocat, https://www.meteo.cat/observacions/xema) for meterological data and Copernicus for satellite data (https://cds.climate.copernicus.eu/#!/home) and climate projections (https://cds.climate.copernicus.eu/index.php/cdsapp#!/home) as well as images from Sentinel2 (https://scihub.copernicus.eu/dhus/#/home) and Landsat (https://earthexplorer.usgs.gov/)).

2.4 Purpose of data generation

The data was generated to increase knowledge on drinking water supply system (DWSS) adaptation to face climate change impacts. The data originated from sensors (e.g. pH, UV, chlorine, turbidity, conductivity, water level, water flow), and lab equipment (e.g. flow cytometer, GC, TOC, LC-OCD) as well as lab experiments (e.g. microbial cultivation).

The generated data and knowledge within the project might be useful to drinking water related organisations (utilities, industry, private companies, etc.) that are exploiting DWSS for a better resilience of their systems face to climate change impacts. Data might also be useful for other researchers in this research topic. The results generated from the raw data are useful for policy makers, government, other projects, regulators and the general public.

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3 FAIR Data

3.1 Making data findable

SafeCREW's peer-reviewed scientific publications were published in full open access journals to comply with the Horizon Europe obligations. The open access journals provide DOIs for the articles that are published and articles are accessible immediately after the publication. Metadata for scientific publications must at least provide the following information:

- publication (author(s), title, date of publication, publication venue);
- Horizon Europe funding;
- grant project name, acronym and number;
- licensing terms;
- persistent identifiers for the publication,
- the authors involved in the action and, if possible, for their organizations and the grant.

Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

Open data coming from the scientific results and outcomes were deposited in a trusted repository: Zenodo. It is an interdisciplinary trusted repository for research data, which is financed by the European commission and operated by OpenAIRE. A Zenodo Community has been created for SafeCREW (https://zenodo.org/communities/safecrew/). It is a subcommunity of EU Open Research Repository, which increases visibility and findability. Research data that is deposited in a trusted repository, such as Zenodo, receives a persistent identifier. A universal repository like Zenodo allows the deposition of very different research data like the ones created in SafeCREW. Zenodo enriches all uploads with metadata like Publication date, DOI and versions.

In each project meeting, the SafeCREW consortium was reminded to upload their data to Zenodo and to ensure provision of metadata with all basic information for the deposited datasets. Metadata of deposited data will be preferably open under a CC0 -licence, in line with the FAIR principles. The information to be provided includes at least the following:

- datasets (description, date of deposit, author(s), venue and embargo);
- Horizon Europe funding;
- grant project name, acronym and number;
- licensing terms;
- persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant.

3.2 Making data accessible

3.2.1 Repositories

Research data is deposited in trusted repositories, preferentially Zenodo. Software is made open on GitHub and linked to Zenodo. On Zenodo, data is stored safely and for a long term and the different datasets are linked to the SafeCREW project. Additional repositories that have been taken into account over the course of the project are IPChem, openfluor.lablicate.com and UFZ Archive system. These are more specified repositories. All are running under CC license. LC-FT-ICR-MS data has been deposited at the UFZ Archive system.

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When publishing data on Zenodo, it is automatically indexed in OpenAire. Zenodo supports harvesting of all content via the OAI-PMH protocol, which is a widely used protocol for harvesting metadata. The metadata output is possible in the formats datacite (only original DataCite metadata), oai_dc (only minimal metadata) or marc21 (support may be discontinued by Zenodo).

Additionally, the Zenodo REST application programming interface currently supports Deposits (upload and publishing of research outputs), Records (search published records) and Files (download/upload of files).

The data deposited on the chosen repositories will be accessible using a standard browser via the http-protocol.

Zenodo is a long-term repository on which the data and metadata (to properly document collected and generated data) remain accessible and findable. The SafeCREW members agree to keep any additional data for additional two years after the project ends.

3.2.2 Open access of data

Research data that are required to verify published results, were released on open-source repositories under FAIR guidelines. The repository is selected to guarantee long-term storage. A permanent identifier has be given (as DOI) and the availability of metadata is under CCO license if possible.

3.2.2.1 Exceptions: Sensitive data

Some sensitive data are restricted and only accessible on request. This is due to the critical infrastructure of DWSS, in particular in the Ukraine under the current Martial Law. All data generated from water utility samples need approval from the respective water utility prior to publication. If the water utility does not consent, this data cannot be made public. Possibilities to provide data “on demand”/under restricted access or in anonymised form are possible in that case. For anonymization, the water work name was for example changed to a non-descriptive number in the readme file and file name. The descriptions of the samples were also modified accordingly.

3.3 Making data interoperable

To make data interoperable it is important to make it understandable between different partners. For example, the metadata documents the obtained data during monitoring activities and sampling campaigns. It should include the parameters measured as well as their units, the location of the measurements, the equipment used. The equipment should be described. It should be differed between time series and lab measurements. Keywords should be provided in order to make data findable.

Within the SafeCREW consortium, it was decided on a naming convention for samples and files. This includes a list of abbreviations (for case studies, water works, treatments, etc.). This naming convention is available for all SafeCREW members and facilitates the interchange of samples between partners for analyses. Relevant descriptions are also shared in the *readme* files for the depositories. If needed, the names of e.g. water works are anonymized.

The principle of naming is as follows:

Field samples: **<Case-study>_<Point of sampling>_<Date&timestamp>**

Lab samples (modified water from case studies): **<Case study>_<Point of sampling>_<Type of experiment>_<Operating parameters nr>_<Running nr>**

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Lab samples (artificial water)**: <Partner>_<Synthetic water recipe>_<Type of experiment>_<Operating parameters nr>_<Running_Nr>**

On-line sensors: **<Case study>_<Point of sampling>_<start date&time stamp>_<End date&time stamp>_<Running Nr>**

The document with the naming convention was accessible for all SafeCREW members via the SharePoint. Relevant parts were pasted in the *readme* files for metadata provision of deposited datasets. For description of data and devices, the preferential use of terms from commonly used ontologies were considered.

It was reminded regularly to provide *readme* files under CC0 license with each dataset that is uploaded to a repository (default option: Zenodo). It shall provide information on the samples (metadata like location, timestamp, unit) that describe the scientific data, provides contact to the creator of the dataset as well as provide keywords to help finding relevant datasets. If necessary, the *readme* file will explain how to process the data that it is linked to.

Zenodo's metadata is compliant with DataCite's Metadata Schema minimum with a few additional extensions. Fields that were used, if applicable, are:

- Files
- Upload
- Basic information (DOI, publication date, authors & affiliation, title, description)
- Licence
- Related identifiers (if applicable)
- Subjects
- Contributors
- References
- Funding

3.4 Increase data re-use

Each dataset was provided with a *readme* file to increase the re-usability of the data. This includes information on methodology, abbreviations and sample collection details (see section 3.3 for further details). The description of data will include the sampling location (perhaps anonymised), if useful with geo-coordinates.

The data was published under creative commons license with the exceptions stated above. With the *readme* files provided with the samples, all data is usable by third parties.

The provided *readme* template (.txt) was as follows:

```
============================================================
README Template for SafeCREW Dataset Upload to Zenodo
============================================================
------------------------------------------------------------
General Information
------------------------------------------------------------
- Title: [Provide the title of the dataset]
- Creator(s): [List the authors or creators of the dataset along with contact information]
- Date of Publication: [YYYY-MM-DD]
- Version: [Version of the dataset]
- License: CC0
- DOI: [Provide the DOI once assigned]
```

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Dataset Description

Overview

[Briefly describe the dataset, including its purpose and the context in which it was obtained.]

Keywords

- [Keyword 1]
- [Keyword 2]
- [Keyword 3]
- [Additional keywords to enhance discoverability]

Methodology

- Sampling Campaign Details: [Describe the purpose, frequency, and duration of the sampling activities]
- Methodological Approach: [Provide details on the methodology used for data collection]
- Parameters Measured: [List the parameters that were measured along with their units]

Metadata

- Sampling Date and Time: [Provide details about the sampling dates and times]
- Location:
  - General Location: [Provide general location. Example: "Northern Germany"]
  - Geo-coordinates: [Latitude, Longitude] [optional and anonymised, if necessary]
- Unit: [Describe the units of measurement used]

Equipment

Provide a detailed description of the equipment used for data collection.
- Equipment Used:
  - Name: [Equipment Name]
  - Manufacturer: [Manufacturer]
  - Model: [Model Number]
  - Description: [Brief description of equipment and its purpose]

Data Description

Time Series Measurements

- Description: [Description of the time series data, if applicable]
- Frequency: [Sampling frequency]

Lab Measurements

- Description: [Description of lab measurements, if applicable]
- Procedures: [Brief outline of lab procedures used]

Processing Instructions

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[Provide instructions or guidelines on how to process or use the data. This might include software requirements, data formats, or other relevant processing information.]

Abbreviations

- [Abbreviation 1: Definition]
- [Abbreviation 2: Definition]
- [Additional abbreviations as required]

Sample Collection Details

- Method of Collection: [Method used to collect samples]
- Sample Description: [Type and description of samples collected]

Contact

- Primary Contact:
  - Name: [Contact Name]
  - Email: [Contact Email]
  - Institution: [Institution]

Additional Information

[Any additional information or context that users might find helpful. This could include references to publications that use the dataset, acknowledgments, or related projects.]

This README file is provided under a CC0 license and is intended to facilitate the understanding and use of the accompanying dataset. If you have any questions or require further information, please contact the dataset creator(s) listed above.

Research articles were published in peer-reviewed journals. Deliverables that are finished within the SafeCREW project were written and checked by different persons to assure quality and correctness. For data, the processing parameters are given, so calculations can be re-done to check quality and correctness.

4 Other research outputs

Digital outputs such as software or models are treated as research data like stated above. Protocols and workflows were published open access as well.

5 Allocation of resources

The approximate costs are 1 person month per beneficiary and already covered by the project budget.

The data management is organized by the project Coordinator and each partner named one responsible person for the implementation. Anissa Grieb has been assigned as the project Data Manager.

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The partners have assigned the following persons per partner as responsible for the implementation of the Data Management Plan:

Partner	**Responsible person**
DVGW-TUHH (project data manager, coordinator)	Anissa Grieb
POLIMI	Manuela Antonelli
KWB	Christoph Sprenger
BDS	Peter Behnisch
EUT	Queralt Plana Puig
UBA	Aki Sebastian Ruhl
UFZ	Thorsten Reemtsma
CAT	Andreu Fargas Marques
TUTECH	Margarete Remmert-Rieper
MM	Fabio Marelli, Angela Manenti
MSS	Andrew McInnes

6 Data security

Servers are located in the EU and aligned with the EU legislation on data security and privacy.

Each institution is responsible for their own backup. Recommendations are to store data at least 3 times on 2 different media, of which 1 is located at another place (physical distance).

Once deposited on the repository, Zenodo (or other used repositories) has its own backup strategies.

6.1 Website privacy and policy

SafeCREW's Website Privacy and Cookie Policy is published on https://safecrew.org/privacy-policy/.

7 Ethics

There are no ethical issues for this project.

8 Overview of data generated within the project

A list of datasets deposited in repositories is displayed in the following tables 1 and 2. In Table 3, the publications of SafeCREW are listed.

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Table 1: SafeCREW datasets deposited on trusted repositories, related to Deliverables and publications.

	Title	Author	Task/ Deliverable	Repository	Type	DOI	Date	Public/ Restricted
1	Characterizing Macroporous Ion Exchange Membrane Adsorbers for Natural Organic Matter (NOM) removal — Adsorption and Regeneration behavior	DVGW-TUHH	D 2.2	Zenodo	Dataset	10.5281/zenodo.10965834	12.04.2024	Public
2	CS#1B Monitoring Data of Subsurface Passage in Managed Aquifer Recharge: Raw flow cytometry data (fcs)	KWB	D 2.1	Zenodo	Dataset	10.5281/zenodo.13981203	23.10.2024	Public
3	Migration water tests for materials in contact with disinfected drinking water	UBA	D 1.5	Zenodo	Dataset	10.5281/zenodo.14012190	30.10.2024	Public
4	CS#1H Monitoring Data of Subsurface Passage in Managed Aquifer Recharge: Microbial and Organic Composition Analysis	DVGW-TUHH	D2.1	Zenodo	Dataset	10.5281/zenodo.14008115	29.10.2024	Public
5	Novel sulfonated DBPs in the drinking water samples from CS#3	UFZ	T 1.1 T 2.5	Zenodo	Dataset	10.5281/zenodo.15170397	-	Draft (scientific publication currently written)
6	Liquid chromatography Fourier transform ion cyclotron resonance mass spectrometry (LC-FT-ICR-MS) data from disinfected surface waters	UFZ	T 1.2	UFZ Data Investigation Portal	Dataset	https://doi.org/10.48758/ufz.16265	23.11.2025	Public
7	Mass spectrometry parameters of novel sulfonated disinfection by-products in drinking water	UFZ	Task 1.1	Zenodo	Dataset	10.5281/zenodo.19606567	-	Draft (scientific publication currently written)

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	Title	Author	Task/ Deliverable	Repository	Type	DOI	Date	Public/ Restricted
8	SafeCREW-T4.2-CS2-supply-points: First release	EUT	T 4.2	Zenodo	Software	10.5281/zenodo.15295575	28.04.2025	Public
8a	SafeCREW-T4.1-NOM-anthropogenic-impact	EUT	T 4.1	Github	Software	GitHub - MassimilianoArca/SafeCREW-T4.1-NOM-anthropogenic-impact	-	Public
9	SafeCREW-T4.2-CS2-supply-points (Dataset for the analysis and modeling of soft-sensors for SafeCREW T4.2 CS2 DWDN)	MM	T 4.2	Zenodo	Dataset	10.5281/zenodo.15425210	15.05.2025	Public
10	SafeCREW-T4.1-NOM-anthropogenic-impact	POLIMI	T 4.1	Zenodo	Computational notebook	10.5281/zenodo.15773349	30.06.2025	Public
11	SafeCREW-T4.2-CS3-supply-points	EUT	T 4.2	Zenodo	Dataset	10.5281/zenodo.18218607	12.01.2026	Public
12	Dataset for: Electrochemical Regeneration of Macroporous Anion-Exchange-Membrane-Adsorbers for the Removal of Natural Organic Matter (NOM)	DVGW-TUHH	T 2.2 Publication	Zenodo	Dataset	10.5281/zenodo.18737841	23.02.2026	Public

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	Title	Author	Task/ Deliverable	Repository	Type	DOI	Date	Public/ Restricted
The following datasets are restricted due to sensitive information. Water quality data and water distribution data are related to specific customers and are needed to be kept restricted to prevent incorrect use:								
13	SafeCREW risk-based water management tool	EUT	D3.3, T3.4	Zenodo	Dataset	DOI: 10.5281/zenodo.19890062	18.05.2026	Restricted
14	CS#2: Toxicity data on samples grabbed from 5 DWTPs in Milan	MM, BDS	D 3.1 CS#2	Zenodo	Dataset	DOI: 10.5281/zenodo.14008440	29.10.2024	Restricted
15	Online hydraulic data from full scale CS#3 DWDN for model calibration	CAT	D 3.1 CS#3	Zenodo	Dataset	DOI: 10.5281/zenodo.13828658	09.04.2025	Restricted
16	Online water quality monitoring data from full scale CS#3 DWDN for the DBP prediction model	CAT	D 3.1 CS#3	Zenodo	Dataset	DOI: 10.5281/zenodo.13828670	09.04.2025	Restricted
17	CS#2 Data from online sensors on DWSP (drinking water service public – houses of water)	MM	D 3.1 CS#2	Zenodo	Dataset	DOI: 10.5281/zenodo.13987083	24.10.2024	Restricted
18	MM laboratory analyses datasets Oct2023-Sept2024 for CS#2 water	MM	D 3.1 CS#2	Zenodo	Dataset	DOI: 10.5281/zenodo.13981609	25.10.2024	Restricted
19	Data gathered from grabbed samples on DWSPs (drinking water service public - houses of water) for CS#2	MM, POLIMI	D 3.1 CS#2	Zenodo	Dataset	DOI: 10.5281/zenodo.13981705	23.10.2024	Restricted
20	BPA analysis and datasets for CS#2 water	MM	D 3.1 CS#2	Zenodo	Dataset	DOI: 10.5281/zenodo.13970715	22.10.2024	Restricted

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	Title	Author	Task/ Deliverable	Repository	Type	DOI	Date	Public/ Restricted
21	Laboratory water quality monitoring data from full scale CS#3 DWDN for the DBP prediction model	CAT	D 3.1 CS#3	Zenodo	Dataset	DOI: 10.5281/zenodo.12723467	09.04.2025	Restricted
22	Microbiological characterization data from full scale CS#3 DWDN	CAT	D3.1 CS#3	Zenodo	Dataset	DOI: 10.5281/zenodo.13828678	09.04.2025	Restricted
23	Laboratory water quality monitoring data from full scale CS#3 DWTP for NOM and DBP analysis.	CAT	T2.5 (D2.4)	Zenodo	Dataset	10.5281/zenodo.17403934	21.10.2025	Restricted

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Table 2: SafeCREW outputs of Communication, Dissemination and Exploitation, deposited on Zenodo repository. SPI = Sociedade Portuguesa de Inovação, Ucoimbra = University of Coimbra, CYENS = Cyens Center of Excellence

	Title	**Organizer**	**Task/ Deliverable**	Repository	Type	**DOI**	Date	Public/ Restricted
1	Fourth SafeCREW and H2OforAll Webinar - Drinking Water Systems Modelling and Digitalization	TUTECH, EUT, UCOIMBRA, SPI	T5.4/5.5 (ZP4W)	Zenodo	Video/Audio	10.5281/zenodo.15397310	03.12.2024	Public
2	Third H2OforAll and SafeCREW Webinar - Precursors of disinfection by-products	TUTECH, DVGW-TUHH, UCOIMBRA, SPI	T5.4/5.5 ZP4W	Zenodo	Video/Audio	10.5281/zenodo.15397252	04.06.2024	Public
3	Second ZeroPollution4Water Webinar "DBPs – Monitoring, Treatment, and Regulation"	SPI, UCOIMBRA, MSS, TUTECH	T5.4/5.5 ZP4W	Zenodo	Video/Audio	10.5281/zenodo.15397201	25.03.2024	Public
4	5th SafeCREW and H2OforAll Webinar – Preparing drinking water supply systems for climate change – case study insights	TUTECH, SPI, DVGW-TUHH, CYENS, CAT, NUWEE	T5.4/5.5 ZP4W	Zenodo	Video/Audio	10.5281/zenodo.15397426	03.04.2025	Public
5	All about disinfection by-products (DBP) - webinar by ZeroPollution4Water cluster	SPI, TUTECH, UCOIMBRA, DVGW-TUHH	T5.4/5.5 ZP4W	Zenodo	Video/Audio	10.5281/zenodo.15396881	30.11.2023	Public

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Table 3: SafeCREW publications, including non-peer-reviewed analytical protocols, guidelines and policy briefs that have been created as outputs of SafeCREW.

	Title	Partner	Zenodo	Type	DOI	Publication Date	Public/ Restricted
1	Wullenweber *et al.* - Characterizing Macroporous Ion Exchange Membrane Adsorbers for Natural Organic Matter (NOM) Removal—Adsorption and Regeneration Behavior	DVGW-TUHH	Yes	Publication	10.3390/membranes14060124	27.05.2024	Public
2	ZeroPollution4Water Cluster: The overview and the inventory of 32 case studies in drinking and groundwater	REA and TUTECH	Yes	Publication	data.europa.eu/doi/10.2848/3536872	10.03.2025	Public
3	Ranjbar *et al.* - Investigating chlorine consumption through semi-mechanistic modeling and its implications for trihalomethane formation: A comparison of diverse drinking water	UBA	Yes	Publication	10.1016/j.watres.2025.124673	24.09.2025	Public
4	Behnisch *et al.* - LP-34 EU Safe Crew project for evaluating organohalogens (e.g. PFAS, DBPs) in drinking water in Milano (Italy) by using a panel of effect-based bioassays	BDS, DVGW-TUHH, POLIMI, MM	-	Publication	10.1016/j.toxlet.2025.07.1048	09/2025	Public
5	Nihemaiti *et al.* - Formation of regulated and novel disinfection by-products during chlorine and chlorine dioxide disinfection of surface water and groundwater	UFZ, DVGW-TUHH, POLIMI	-	Publication	10.1016/j.watres.2025.124996	17.11.2025	Public

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	Title	Partner	Zenodo	Type	DOI	Publication Date	Public/ Restricted
6	Martynov *et al.* - Hazard identification and assessment in water supply systems	NUWEE	Yes (but not in community)	Publication	10.32347/2524-0021.2025.52.74-80 zenodo.org/records/19563397	08.12.2025	Public
7	Langenbach *et al.* - Evaluating DBP Formation in Chlorinated Drinking Water: Effects of Contact with System Materials	UBA	Yes	Publication	10.1021/acsestwater.5c01355	26.02.2026	Public
8	Wullenweber *et al.* - Electrochemical regeneration of macroporous anion exchange membrane Adsorbers for the removal of natural organic matter (NOM)	DVGW-TUHH	Yes	Publication	10.1016/j.jwpe.2026.109770	27.02.2026	Public
9	SafeCREW Analytical Protocol #1 – Advanced analytical procedures for the characterization of sulfonated disinfection byproducts in drinking water	UFZ	Yes	Other (analytical protocol)	10.5281/zenodo.18852969	08.01.2026	Public
10	SafeCREW Analytical Protocol #2 – Robust analytical methods to comprehensively characterise natural organic matter and related disinfection by-products formation potential	UFZ	Yes	Other (analytical protocol)	10.5281/zenodo.18853650	06.02.2026	Public
11	SafeCREW Analytical Protocol #3 – Test protocol for effect-based in-vitro toxicity assessment of disinfection by-products	BDS	Yes	Other (analytical protocol)	10.5281/zenodo.18853699	17.02.2026	Public

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	Title	Partner	Zenodo	Type	DOI	Publication Date	Public/ Restricted
12	SafeCREW Analytical Protocol #4 – Protocol for testing materials in contact with disinfected water, integrating batch- and continuous-flow conditions	UBA	Yes	Other (analytical protocol)	10.5281/zenodo.18864854	12.02.2026	Public
13	SafeCREW Policy Brief #1 Advancing NAM/EBM for the Assessment of Disinfection By-Products and Complex Chemical Mixtures in Drinking Water	BDS, DVGW-TUHH, TUTECH	Yes	Other (Policy Brief)	10.5281/zenodo.18847520	01.12.2025	Public
14	SafeCREW Policy Brief #2 Major Outcomes on Disinfection and Disinfection By-Products and Solutions	UFZ, UBA, BDS, CAT, EUT, POLIMI, MSS	Yes	Other (Policy Brief)	10.5281/zenodo.18852423	01.02.2026	Public
15	SafeCREW Policy Brief #3 Managing the transition from non-disinfected to disinfected drinking water supply systems	UBA, POLIMI, DVGW-TUHH, CAT, EUT, NUWEE	Yes	Other (Policy Brief)	10.5281/zenodo.18852788	28.02.2026	Public
16	SafeCREW Guideline #1 – Application guideline about disinfection by-product precursor removal by different materials	POLIMI	Yes	Other (Guideline)	10.5281/zenodo.18864995	02.02.2026	Public
17	SafeCREW Guideline #2 - Guidelines to develop and validate soft sensors for target contaminants, as backbone of an early-warning system	POLIMI	Yes	Other (Guideline)	10.5281/zenodo.18965943	-	Embargo due to publication plans

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	Title	Partner	Zenodo	Type	DOI	Publication Date	Public/ Restricted
18	SafeCREW Guideline #3 - Integrated risk management by a combination of QMRA, QCRA and EBT for optimal management of DWSS with minimal risks for consumers	POLIMI	-	Other (Guideline)	planned	-	Planned: Public
19	SafeCREW Guideline #4 - Guideline for monitoring water quality and management of DBPs in DWDNs	EUT	Yes	Other (Guideline)	10.5281/zenodo.19576956	14.04.2026	Public

Publications related to the SafeCREW project, that are be accepted after the end of the project, will still be uploaded to the Zenodo SafeCREW community.

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