
C14/22/099 - Silicaatmaterialen via Ordelijke en Niet-ordelijke Assemblage (SIONA)

A Data Management Plan created using DMPonline.be

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Template: KU Leuven BOF-IOF

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Grant number / URL: C14/22/099

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Project abstract:

Silicate based inorganic polymers - known by few, but serving everyone. In their crystalline, microporous form (zeolite) they are invaluable for industrial production. In their amorphous form (alkali activated material or geopolymer) they enable construction of durable and CO₂-lean roads, bridges, etc. Using a transparent synthesis system allowing thorough in situ characterisation of the complex sequence of chemical processes during aluminosilicate nucleation and growth, SiONA will show ways to control the synthesis of advanced amorphous (geopolymers) and crystalline (zeolites). Understanding of aluminosilicate polymerisation from molecular oligomer to macroscopic functional materials, will create new fundamental insight, as well as opportunities to innovate industrially highly relevant silicate materials.

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Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset name / ID	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
		Indicate: N (ew data) or E (xisting data)	Indicate: D (igital) or P (hysical)	Indicate: A udiovisual I mages S ound N umerical T extual M odel S oftware O ther (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
Analytical data	Chemical / spectroscopic raw data	N	D	N	ascii; binary	<1GB	
Experimental results	interpreted data	N	D	T/N	ascii; binary; graphics; tabular; text	<1GB	
Reports	presentation and discussion of results	N	D	T/N	ascii; binary; graphics; tabular; text	<1GB	
Visualisation	Visualization of results	N	D	AI	graphics	<1GB	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

NA

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- No

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, ...)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, codebook.tsv etc. where this information is recorded).

Analytical and raw data will be indicated in the files / folders containing the Experimental results (e.g., tab sheet with list of source files interpreted). A dedicated .xls file will list all different source files and correlate to the measured and interpreted sample(s)

A short description will be added for each (group of) files listed.

Reports are kept together with the above (in a shared storage place / folder).

Will a metadata standard be used to make it easier to find and reuse the data ?

If so, please specify which metadata standard will be used.

If not, please specify which metadata will be created to make the data easier to find and reuse.

- Yes

RDR KU Leuven

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Other (specify below)

Siona Teams site at KU Leuven

Long term storage on K-drive (ICTS; KU Leuven)

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

Data is stored in the teams site SiONA, only team members have access to the site.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

covered by department

Long term storage on k-disk amounts to 105 Euro per year, covered by project

Data Preservation after the end of the Research Project

Which data will be retained for 10 years (or longer, in agreement with other retention policies that are applicable) after the end of the project?

In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

- All data will be preserved for 10 years according to KU Leuven RDM policy

Where will these data be archived (stored and curated for the long-term)?

- Other (specify below)

shared network drive: k-drive (KU Leuven; ICTS)

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

105 Euro per year, covered by project

Data Sharing and Reuse

Will the data (or part of the data) be made available for reuse after/during the project?

Please explain per dataset or data type which data will be made available.

- Yes, as restricted data (upon approval, or institutional access only)
- Other (specify below)

As open data on harvard dataverse or kuleuven rdr for datasets. published in peer reviewed journals.

If access is restricted, please specify who will be able to access the data and under what conditions.

Only members of research groups involved in research project

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

Please explain per dataset or data type where appropriate.

- No

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- KU Leuven RDR (Research Data Repository)
- Other data repository (specify below)

harvard dataverse

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- Other (specify below)

CC BY-NC 4.0

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- Yes, a PID will be added upon deposit in a data repository

What are the expected costs for data sharing? How will these costs be covered?

N/A

Responsibilities

Who will manage data documentation and metadata during the research project?

SIONA PhD and postdoc researchers

PIs (C. Kirschhock; E. Breynaert; J. Elsen; S. Sreeprasanth Pulinthanathu)

Who will manage data storage and backup during the research project?

ICTS KU Leuven

Who will manage data preservation and sharing?

C. Kirschhock

E. Breynaert

J. Elsen

S. Sreeprasanth Pulinthanathu

Who will update and implement this DMP?

C. Kirschhock
E. Breynaert
Jan Elsen
Sreeprasanth Pulinthanathu Sree