This DATASETreadme file was generated on 2021-07-02 by Stefan Karlsson

GENERAL INFORMATION

1. Title of Dataset: *Viscosity of alumina doped soda lime silicate glasses*

2. Author Information
        A. Principal Investigator Contact Information
                Name: Stefan Karlsson
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3. Date of data collection: 2019 to 2021-08-24

4. Geographic location of data collection: Växjö (Sweden)

5. Information about funding sources that supported the collection of the data: FORMAS, the Swedish Research Council for Sustainable Development, Grant No. 2018-00707.

SHARING/ACCESS INFORMATION

1. Licenses/restrictions placed on the data: Creative Commons Attribution License (CC BY)

2. Links to publications that cite or use the data:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

3. Links to other publicly accessible locations of the data: N/A

4. Links/relationships to ancillary data sets: N/A

5. Was data derived from another source? No

6. Recommended citation for this dataset:
Karlsson, S. Dataset: Viscosity of alumina doped soda lime silicate glasses. 2021. https://doi.org/10.5878/e0r5-d487

DATA & FILE OVERVIEW

1. File List:

Viscosity: ALN1.txt, ALN2.txt, ALN3.txt, ALN4.txt, ALN5.txt, ALN6.txt.
Viscosity fitting:
Visc_parameter_determination_Angell_Rao_thermodynamic_data - ALN-series.m
Visc_parameter_determination_update_MYEGA_thermodynamic_data - ALN-series.m

2. Relationship between files, if important: N/A

3. Additional related data collected that was not included in the current data package: Given in:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

4. Are there multiple versions of the dataset? No

METHODOLOGICAL INFORMATION

1. Description of methods used for collection/generation of data:
Please find all relevant information in the following scientific paper:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

2. Methods for processing the data:
Please find all relevant information in the following scientific paper:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

3. Instrument- or software-specific information needed to interpret the data:
Viscosity fitting scripts (see below) can be run with Octave version 5.
Visc_parameter_determination_Angell_Rao_thermodynamic_data - ALN-series.m
Visc_parameter_determination_update_MYEGA_thermodynamic_data - ALN-series.m

4. Standards and calibration information, if appropriate:
Please find all relevant information in the following scientific paper:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

5. Environmental/experimental conditions:
Please find all relevant information in the following scientific paper:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

6. Describe any quality-assurance procedures performed on the data:
Please find all relevant information in the following scientific paper:
Karlsson, S., *Viscosity of alumina doped soda lime silicate glasses – observation of anomaly in the linear increase as Al_2O_3 replaces SiO_2.* Journal of Non-Crystalline Solids, 2021. **573**: p. 121149. DOI: https://doi.org/10.1016/j.jnoncrysol.2021.121149.

7. People involved with sample collection, processing, analysis and/or submission:
A. Stefan Karlsson

DATA-SPECIFIC INFORMATION FOR Viscosity: ALN1.txt, ALN2.txt, ALN3.txt, ALN4.txt, ALN5.txt, ALN6.txt.

1. Number of variables: 8
2. Number of cases/rows: 9-16
3. Variable List:
No = Number of data
Torq = Torque in mNm
Rpm =Revolutions per minute
logEta = $\log_{10} \eta$ in dPa·s
nom C = Nominal temperature in °C
meas C = Measured temperature in °C
fit C = fitted temperature to Vogel-Fulcher-Tammann (VFT) equation in °C
corr C = corrected temperature after calibration in °C
nom/meas_fit SD= standard deviation of fit C in relation to nom C or meas C.
A', B', T0' = VFT parameters before calibration

diffA, diffB, diffT0 = calibration parameters
A, B, T0 = corrected VFT parameters after calibration

4. Missing data codes:
Key code for identifying sample in relation to the publication:
ALN1 = Al0
ALN2 = Al4
ALN3 = Al8
ALN4 =Al12
ALN5 = Al16
ALN6 = Al20

5. Specialized formats or other abbreviations used: N/A