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NANOPARTICLE EMISSIONS FROM THE TRANSPORT SECTOR: HEALTH AND POLICY IMPACTS

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Contents

Summary 8
Files description 9
Acknowledgement 13

List of Figures

No table of figures entries found.

List of Tables

Table 1 - Laboratory data files available on nPETS database 9

Glossary

AUTH	Aristotle University of Thessaloniki
C6, C20, CX	Type of metro train in Stockholm metro
DGI	Dekati Gravimetric Impactor
ELPI	Electrical Low Pressure Impactor
GCI	Grey Cast Iron
KTH	Kungliga Tekniska högskolan
LTH	Lunds Tekniska Högskola
NAO	Non-Asbestos Organic
nPM	nano Particles Matter
PAM	Potential Aerosol Mass
PM2.5	Particles Matter below 2.5 µm size diameter
POD	Pin on Disc
VOCs	Volatile Organic Compounds

Summary

The current deliverable is included in WP3 Laboratory measurements, which aims to generate, measure, and collect sub 100 nm particle emissions in controlled laboratory environments. It summarizes data files currently available on the nPETS database.

The nPets database database can be accessed via: http://160.40.60.237:8888/nanoparticles/. This link is still for internal use, mainly to upload data files before they are made public.

Each file is corresponding to controlled laboratory measurement data. It includes non-exhaust emission measurements carried out on tribometers and brake dynamometer at KTH, LTH and Brembo and exhaust emission measurements carried out on chassis dynamometer at AUTH.

Each file is named on the database according to the partner and the measurement associated. It also includes a short description of the tests performed and the filters collected.

It should be noted that some data are still under processing and missing from the database. So, this report will be updated.

Files description

Table 1 summarizes the laboratory measurement files available on the nPETS database. Each file is described by its name on the database, a short description of the tests performed including the tests ID and the filters collected.

Table 1 - Laboratory data files available on nPETS database

DATABASE FILE NAME	MEASUREMENTS DESCRIPTION	TESTS ID	FILTERS COLLECTED
KTH_POD_WheelRail_01	Pin-on-disc testing Wheel rail – Conventional rail material pin (ref : UIC600) / Conventional wheel material disc (ref : R7) Particles emission	POD_WR1_01.01.01 to POD_WR1_01.01.04	/
KTH_POD_WheelRail_02	Pin-on-disc testing Wheel rail – Conventional rail material pin (ref: UIC600) / Ni-based laser cladded disc Particles emission	POD_WR1_02.01.01 to POD_WR1_02.01.04	/
KTH_POD_WheelRail_03	Pin-on-disc testing Wheel rail – Conventional rail material pin (ref : UIC600) / Stainless steel laser cladded disc Particles emission	POD_WR1_03.01.01 to POD_WR1_03.01.04	/
KTH_POD_Brakes_01	Pin-on-disc testing Car brakes – Low metallic cu free (ref: m1b) pin / GCI disc Particles emission with filter collection.	POD_B1_01.01.01 to POD_B1_01.01.04	1 (DGI - nPM)

KTH_POD_Brakes_02	Pin-on-disc testing Car brakes – Low metallic cu free (ref: m1c) pin / GCI disc Particles emission with filter collection.	POD_B1_01.02.01 to POD_B1_01.02.04	1 (DGI - nPM)
KTH_POD_Brakes_03	Pin-on-disc testing Car brakes – Low metallic cu content (ref: m2b) pin / GCI disc Particles emission with filter collection.	POD_B1_01.03.01 to POD_B1_01.03.04	1 (DGI - nPM)
KTH_POD_Brakes_04	Pin-on-disc testing Car brakes – NAO (ref: m3a) pin / GCI disc Particles emission with filter collection.	POD_B1_01.04.01 to POD_B1_01.04.04	1 (DGI - nPM)
KTH_POD_Brakes_05	Pin-on-disc testing Car brakes – Low metallic cu-free (ref: m1b) pin / GCI disc Mapping particles emission and VOCs.	POD_B2_01.01.01 to POD_B2_01.01.12	/
KTH_POD_Brakes_06	Pin-on-disc testing Car brakes – NAO (ref: m3a) pin / GCI disc Mapping particles emission and VOCs.	POD_B2_01.04.01 to POD_B2_01.04.17	/
KTH_POD_Brakes_07	Pin-on-disc testing Car brakes – Low metallic cu-free (ref: m1b) pin / GCI disc Particles emission with cells exposure.	POD_B3_01.01.01	1 (PM2.5)

KTH_POD_Brakes_08	Pin-on-disc testing Car brakes – Low metallic cu-free (ref: m1c) pin / GCI disc Particles emission with cells exposure.	POD_B3_01.02.01	1 (PM2.5)
KTH_POD_Brakes_09	Pin-on-disc testing Car brakes – Low metallic cu-content (ref: m2b) pin / GCI disc Particles emission with cells exposure.	POD_B3_01.03.01	1 (PM2.5)
KTH_POD_Brakes_10	Pin-on-disc testing Car brakes – NAO (ref: m3a) pin/GCI disc Particles emission with cells exposure	POD_B3_01.04.01	1 (PM2.5)
KTH_POD_Brakes_11	Pin-on-disc testing Rail brakes – C6 (CX) pin/ conventional wheel material disc (R7) Particles emission with cells exposure	POD_B3_01.05.01	1 (PM2.5)
KTH_POD_Brakes_12	Pin-on-disc testing Rail brakes – C20 pin / conventional wheel material disc (R7) Particles emission with cells exposure	POD_B3_01.06.01 POD_B3_01.06.02	1 (PM2.5) /
KTH_POD_Brakes_13	Pin-on-disc testing Car brakes – NAO (ref: m3a) / GCI disc Secondary particles emission with PAM flow reactor	POD_B4.01.04.01 to POD_B4.01.04.05	/

KTH_POD_Tires_01	Pin-on-disc testing Tires – Studded tires #1 /Stone plate Particles emission	POD_T1.01.01.01 to POD_T1.01.01.04	5 (ELPI - nPM)
KTH_POD_Tires_02	Pin-on-disc testing Tires – Studded tires #2 /Stone plate Particles emission	POD_T1.01.02.01 to POD_T1.01.02.04	5 (ELPI - nPM)
LTH_clutch_01	Clutch testing Passenger car clutch #1 Particles emission	LTH_01	5 (ELPI-nPM)
MN-Brembo ITA_field+lab	Brake dynamometer Car brakes – Low metallic cu-free (M1a & M1b), Low metallic cu-content (M2a &M2b), NAO (M3) pads/ GCI discs WLTP cycle and filters collection	ITA_lab_M1a ITA_lab_M1b ITA_lab_M2a ITA_lab_M2b ITA_lab_M3	3 (DGI-nPM) 2 (DGI-nPM) 1 (DGI-nPM) 2 (DGI-nPM) 3 (DGI-nPM)

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