

## Supplementary Information

Table S1. Description of sampling sites

Site	Address (Postal code)	Date of sampling (2018)	Waterwork/ Water abstraction area	Description of water supply network (material, age, length)	Type of building
1	Knabrostræde (1210 Kbh. K)	11 April and 1 June	Marbjerg, Lejre, Slangerup, Søndersø, Regnemark, Thorsbro (Infrequently from Islevbro).	Local water pipes: PE 90 mm, from 2004. Supply network: Mix of old cast iron pipes and newer PE pipes.	Small shop, older building/ installations
2	Eriksgade (1708 Kbh. V)	11 April	Regnemark, Thorsbro, Slangerup, Søndersø (Infrequently from Islevbro, Lejre, Marbjerg).	Local water pipes: Cast iron 100 mm, from 1890. Supply network: Mix of old cast iron pipes and bonna pipes as well as newer PE and PEH pipes.	Apartment building (private housing)
3	Blegdamsvej (2200 Kbh N)	2 May	Søndersø, Slangerup, Lejre, Marbjerg and Islevbro (Infrequently from Regnemark).	Local water pipes: Cast iron, 300 mm, from 1877 (Blegdamsvej) + PE 160 mm from 2015 (Tagensvej) + private laterals. Supply network: Mix of old cast iron pipes and newer PE pipes.	Newer building/ installations
4	Ernie Wilkins Vej (2450 Kbh S.)	2 May	Regnemark (primarily) and Thorsbro	Local water pipes: PE 160 mm, from 2007. Supply network: Mix of old and new cast iron pipes, Bonna pipes from 1970's and newer PEH pipes.	Apartment building (private housing), Newer building/ installations
5	Saunte Bygade (3100 Hornbæk)	4 April	Hellebæk	Supply network: PVC, from 1950- 1970, DfW: 5.6 km	Hotel

<b>6</b>	Kolibrivej (4040 Jyllinge)	28 May	Værebro	New supply network (PE) during the last 7 years. Raw water pipes were changed in 2017. New water meters and new wells (where available). Hence, it corresponds almost to a new water works.	Single-family house
<b>7</b>	Østre Allé (4800 Nykøbing F)	8 June	Nykøbing F	Supply network: Primarily PE, from 2013. DfW: 1.9 km	Single-family house
<b>8</b>	Ore Strandpark (4850 Stubbekøbing)	8 June	Ore	Supply network: PVC, from 1963. DfW: 800 m	Single-family summer house
<b>9</b>	Villestoftehegnet (5210 Odense NV)	26 April	Holmehaveværket	Supply network: Concrete, from mid 70s (12.5 km). Ductile iron, from 1980-1990 (9 km). Mix of PVC (from 1971) and PE (from 1990) (5 km).	Terrace house
<b>10</b>	Lindehaven (5270 Odense)	26 April	Lunde	Ductile iron, from 1997 (4 km). PVC, from 1965 (3.3 km). Local water pipes: PE, from 2017 (300 m).	Single-family house
<b>11</b>	Dagmargade 6000 Odense C)	26 April	Hovedværket	Supply network: Concrete, from 1948 (200 m). Ductile iron, from 1987 (4 km). Local water pipes: PE, from 1996 (240 m).	Apartment building (private housing)
<b>12</b>	Hjelmallé (6200 Aabenrå)	19 April	Farversmølle/ Lindsnakke	Laterals: PVC, 110 mm (242 m). Supply network: Eternit 150 mm (530 m)	Public institution (Sports facility)
<b>13</b>	Lundsbjerg Industrivej (6200 Aabenrå)	19 April	Farversmølle	Laterals: PVC, from 1981. Supply network: PVC 200 mm. DfW: 3.6 km, passing through Sønderskov cistern	Public institution (Educational institution)

<b>14</b>	Kværsløkke (6300 Gråsten)	19 April	Farversmølle	Long supply network. Mix between PVC 75 mm (from the 1970s) and PE (newer)	Small company
<b>15</b>	Aavangen (9575 Terndrup)	16 May	Terndrup	Supply network: depending on water flow, mix of PVC/PEL (PE) with some parts in eternit. Shortest DfW: 1.1 km; 160 mm PVC (430 m) 110 mm PVC (180 m) 75 mm PVC (450 m) 40 PVC (70 m), from 1990-2010	Public institution
<b>16</b>	Gunnar Clausens vej (8260 Viby J.)	16 May	Østerbyværket	Supply network: two options, depending on water flow: 1) 225 mm PVC (1982) (600 m), 315 mm PE (2007) (3.5 km), 225 mm PVC (1971) (300 m) 2) 300 mm Eternit (1972-78) (1300 m), 315 mm PE (2014) (200 m), 300 mm Eternit (1972) (750 m), 315 mm PE (1999) (400 m), Mix of PE (500 m) and PVC (450 m)	Medium-size company
<b>17</b>	Kristtornvej (8200 Aarhus N.)	16 May	Truelsbjergværket	Supply network: 400 mm Eternit (1974) (3.1 km) 400 mm PVC (1989) (700m) 400 mm Eternit (1963-74) (1.2 km) Mix of Eternit (400 m), PE (800 m), PVC (1.6 km) (1967-2014)	Double-family house

Abbreviations: Distance from water works (DfW).

Figure S1. Stereomicroscopy and classification of characteristic particles >100  $\mu\text{m}$ . The pictures show examples of particles observed in the water samples and characterized as likely MP fibres (A-E); likely MP fragments (F,G,I) and likely MP films (H). Particles of inorganic and organic material resembling salts (J-K), quartz (L), proteinaceous (M), rust (N) or metallic particles (O) were disregarded as MP.

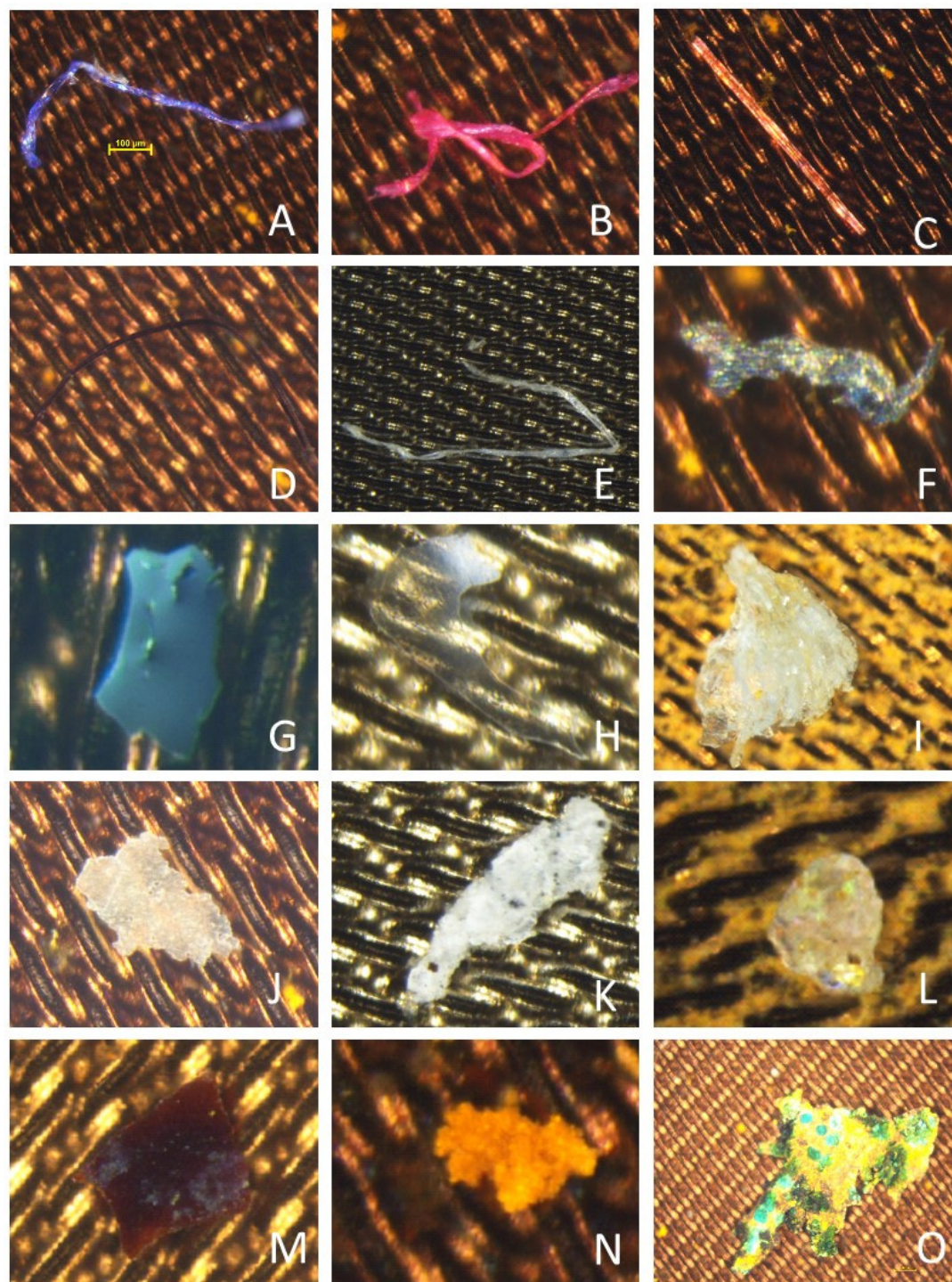


Table S2. Quantification of MP-like particles >100 µm in blank samples. From each of the five blank samples, the total number of MP-like particles as well as the specific numbers of MP-like fibres, fragments and films are shown. The counts were obtained by visual stereomicroscopy and are shown as total numbers per sample. A subset of 48% of all MP-like particles were representatively selected from each sample for verification by µFTIR and results of the identification are shown. PMMA = poly(methyl methacrylate), PET = polyethylene terephthalate and EVA = ethylene-vinyl acetate.

Blank sample	Total No. MP-like particles	Total No. MP-like fibres Number	Total No. MP-like fragments	Total No. MP-like films	Identification of MP-like particles using µFTIR Subset of particles selected for validation
Blank 1	5	4	1	0	PMMA - 1 Cellulosic - 1
Blank 2	9	7	0	2	PET - 1 Cellulosic - 6 Unknown - 2
Blank 3	9	9	0	0	Cellulosic - 5 Proteinaceous - 1 Poor spectra - 1
Blank 4	14	11	3	0	Cellulosic - 3 Proteinaceous - 1
Blank 5	29	26	3	0	EVA copolymer - 1 EVA - 1 Cellulosic - 5 Proteinaceous - 3
Mean ± STD	13.2 ± 9.4	11.4 ± 8.6	0.8 ± 1.3	0.4 ± 0.9	6.4 ± 3.4
Total	66	57 (86%)	7 (11%)	2 (3%)	<u>32 Particles (48%):</u> PMMA - 1 PET - 1 EVA copolymer - 1 EVA - 1 Cellulosic - 20 Proteinaceous - 5 Unknown - 2 poor spectra - 1

Table S3. Quantification of MP-like particles >100 µm in 50L tap water samples. From each of the 17 Danish sampling sites, the total number of MP-like particles as well as the specific numbers of MP-like fibres, fragments and films are shown. The counts were obtained by visual stereomicroscopy and are shown as total number of particles per 50 L sample. A subset of 44% of all MP-like particles were representatively selected for µFTIR identification. From site 1, two water samples (a, b) were obtained from two different sampling days. PP = polypropylene, PS = polystyrene and PET = polyethylene terephthalate.

Sampling site	Total No. MP-like particles in 50 L	Total No. MP-like fibers in 50 L	Total No. MP-like fragments in 50 L	Total No. MP-like films in 50 L	Identification of MP-like particles using µFTIR Subset of particles selected for validation
1 a + b	29	25	3	1	Cellulosic - 9
	18	13	5	0	Cellulosic - 5 Poor spectra - 5
2	16	14	1	1	Cellulosic - 9
3	12	12	0	0	Cellulosic - 5
4	13	8	1	4	Cellulosic - 3 Proteinaceous - 2 Unknown - 1 Poor spectra - 1
5	7	6	1	0	Cellulosic - 4 Poor spectra - 1
6	21	19	2	0	Cellulosic - 2 Unknown - 1
7	10	10	0	0	PP - 1 Cellulosic - 7
8	30	20	7	3	PS - 1 Cellulosic - 4 Proteinaceous - 1 Unknown - 1 Poor spectra - 1
9	12	10	1	1	Cellulosic - 4 Unknown - 2
10	13	13	0	0	Cellulose - 7 Poor spectra - 1
11	11	10	0	1	Cellulosic - 6
12	27	20	7	0	Cellulosic - 8

					Unknown - <b>1</b>
<b>13</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	Cellulosic - <b>3</b> Proteinaceous - <b>1</b> Unknown - <b>1</b> poor spectra - <b>2</b>
<b>14</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>0</b>	Cellulosic - <b>4</b>
<b>15</b>	<b>19</b>	<b>14</b>	<b>5</b>	<b>0</b>	<b>PP - 1</b> Cellulosic - <b>4</b>
<b>16</b>	<b>17</b>	<b>12</b>	<b>5</b>	<b>0</b>	<b>PET - 1</b> Cellulosic - <b>6</b> unknown - <b>2</b>
<b>17</b>	<b>13</b>	<b>12</b>	<b>1</b>	<b>0</b>	Cellulosic - <b>4</b> Proteinaceous - <b>1</b> Poor spectra - <b>1</b>
<b>Mean ± STD</b>	<b>15.6 ± 7.1</b>	<b>12.8 ± 4.9</b>	<b>2.2 ± 2.9</b>	<b>0.6 ± 1.1</b>	<b>6.9 ± 2.0</b>
<b>Total</b>	<b>281</b>	<b>231 (82%)</b>	<b>39 (14%)</b>	<b>11 (4%)</b>	<u><b>124 Particles (44%):</b></u> <b>PP - 2</b> <b>PS - 1</b> <b>PET - 1</b> Cellulosic - <b>94</b> Proteinaceous - <b>5</b> Unknown - <b>9</b> poor spectra - <b>12</b>