

This data is supplementary to

## **Fine micro- and nanoplastics concentrations in particulate matter samples from the high alpine site Sonnblick, Austria**

Daniela Kau<sup>a</sup>, Dušan Materić<sup>b,c</sup>, Rupert Holzinger<sup>b</sup>, Kathrin Baumann-Stanzer<sup>d</sup>, Gerhard Schauer<sup>d</sup>, and Anne Kasper-Giebl<sup>a</sup>

<sup>a</sup>Institute of Chemical Technologies and Analytics, TU Wien, Getreidemarkt 9, 1060 Vienna, Austria

<sup>b</sup>Institute of Marine and Atmospheric Research Utrecht, Utrecht University, Princetonplein 5, 3584CC Utrecht, the Netherlands

<sup>c</sup>Department for Analytical Chemistry, Helmholtz Centre for Environmental Research – UFZ, Permoserstraße 15, 04318 Leipzig, Germany

<sup>d</sup>Geosphere Austria, Hohe Warte 38, 1190 Vienna, Austria

The data in the corresponding Excel-file was corrected with the threefold standard deviation of system blank measurements. A fingerprinting algorithm (described in detail in Materić et al., 2020) was applied to the obtained data and the match score (ascending: -, \*, \*\*, or \*\*\*) of four algorithms (ALG1 to ALG4) is given as well as the resulting mass for this analytical run. Where applicable, data was corrected using the results of field blank measurements and ambient concentrations were computed using the air volume to load the filter.

Data from the Quality Assurance section is shown in the tabs “Fieldblanks” (results of field blank analyses), “Storage” (data of PM<sub>10</sub> filter aliquots stored in prebaked aluminium foil or PE bags), and “Spiking\_PS” (spiking experiment with polystyrene standard). The tabs “PET”, “PE”, “PP\_PPC”, “PS”, “PVC”, and “Tire\_wear” contain the results of triplicate analyses as well as the calculated ambient concentrations. In the tab “Summary”, average ambient concentrations and (combined) standard deviations are summarized. Additionally, the average contributions of the main plastic types (PET, PE, PP/PPC) to plastics mass are given.

Below, the sample IDs used in the Excel-file are specified for the different tabs (written in bold).

### **Fieldblanks:**

Sample ID: FBBW<sub>xy</sub> PM1/PM10/PB-z

FB: fieldblank

BW<sub>xy</sub>: sample ID

PM1/PM10/PB: field blank of PM<sub>1</sub> fraction/field blank of PM<sub>10</sub> fraction/field blank of PM<sub>10</sub> fraction stored in PE bag for storage comparison

z: consecutive number to distinguish triplicate analyses

**Storage:**

Sample ID: YYMMDD PM10/PB-z

YYMMDD: start of sample collection

PM10/PB: sample stored in prebaked aluminium foil/sample stored in PE bag

z: consecutive number to distinguish triplicate analyses

**Spiking\_PS:**

Sample ID: YYMMDD/FB SP-z

YYMMDD/FB: start of sample collection/field blank

SP: spiking experiment

z: consecutive number to distinguish triplicate analyses

**PET, PE, PP\_PPC, PS, PVC, Tire\_wear:**

Sample ID: YYMMDD PM1/PM10-z

YYMMDD: start of sample collection

PM1/PM10: filter of PM<sub>1</sub> fraction/filter of PM<sub>10</sub> fraction

z: consecutive number to distinguish triplicate analyses

**References:**

Materić, D., Kasper-Giebl, A., Kau, D., Anten, M., Greilinger, M., Ludewig, E., van Seville, E., Röckmann, T., & Holzinger, R. (2020). Micro-and nanoplastics in alpine snow: a new method for chemical identification and (semi) quantification in the nanogram range. *Environmental science & technology*, 54(4), 2353-2359.