SUPPLEMENTARY INFORMATION:

S1. Steps of Microwave-induced combustion method for polymers digestion

Absorbing Solution
4 mol l\(^{-1}\) HNO\(_3\) + 4 mol l\(^{-1}\) HCl

Polymer sample + Filter paper + 50 µl NH\(_4\)NO\(_3\)

High pressure quartz vessels

Oxygen Pressurization
20 bar

Microwave Irradiation
5 min (reflux step)

COMBUSTION

Trace Elements Determination
ICPMS and ICPOES
S2. Polymer sample (e.g., PET green) and sample pressed as pellet for MIC digestion above the quartz holder device.

S3. View of PET combustion using MIC method (500 mg of sample, 25 bar O$_2$, 5 s of microwave irradiation, temperature ~ 1400°C).
S4. Digest obtained after microwave-assisted acid digestion (MW-AD) of PS sample (300 mg) using high pressure and temperature (6 ml of concentrated HNO₃ and microwave heating program up to 1000 W for 40 min of digestion).