

**Table S1.** Number of *Enchytraeus crypticus* juveniles counted after 21 d exposure to polystyrene nanoplastics (NPIs) in LUFA 2.2 soil. Results are expressed as average value (AV)  $\pm$  standard error (SE). \* Significant differences to control ( $p < 0.05$ ).

Concentration of NPIs (mg/kg)	Number of Juveniles (AV $\pm$ SE)
0	312.1 $\pm$ 10.6
0.015	304.5 $\pm$ 10.6
1.5	325.8 $\pm$ 18.4
15	329.3 $\pm$ 22.0
150	294.3 $\pm$ 11.0
300	295.5 $\pm$ 23.9
450	337.0 $\pm$ 16.0
600	300.5 $\pm$ 5.5
900	262.3 $\pm$ 28.0
1200	128.0 $\pm$ 30.2 *
1500	142.0 $\pm$ 41.2 *

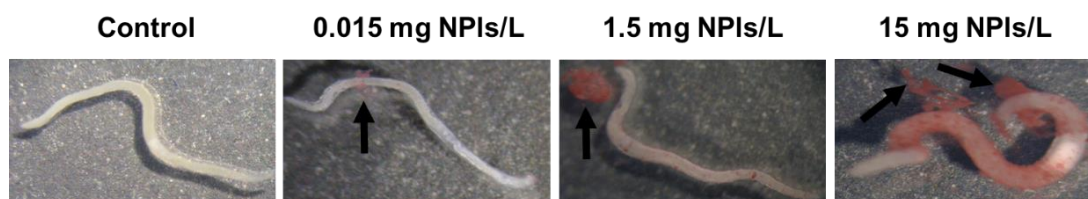
**Table S2.** Effect Concentrations (ECx), applying the 2-parameters Logistic model, for survival and reproduction of *Enchytraeus crypticus* after 21 d exposure to polystyrene nanoplastics (NPIs) in LUFA 2.2 soil. EC 20, 50, 80: Concentration that causes 20, 50 and 80% of effect, respectively. Results are presented as estimated value  $\pm$  standard error.

Endpoints	EC 20 (mg/kg)	EC 50 (mg/kg)	EC 80 (mg/kg)
Survival	1257.20 $\pm$ 36.82	1541.40 $\pm$ 29.03	1825.60 $\pm$ 68.39
Reproduction	926.37 $\pm$ 95.59	1321.10 $\pm$ 63.41	1715.80 $\pm$ 118.99

**Table S3.** Number of *Enchytraeus crypticus* juveniles counted after 21 d exposure to the dispersant – tween 20 and sodium azide (NaN<sub>3</sub>) – in LUFA 2.2 soil. Results are expressed as average value (AV)  $\pm$  standard error (SE).

Concentration of tween 20 and NaN <sub>3</sub> (mg/kg)	Number of Juveniles (AV $\pm$ SE)
0	284.0 $\pm$ 15.0
0.0029 $\pm$ 0.00037	350.5 $\pm$ 72.6
0.29 $\pm$ 0.037	278.2 $\pm$ 22.4
2.9 $\pm$ 0.37	344.4 $\pm$ 13.7
29.1 $\pm$ 3.7	282.8 $\pm$ 7.6
58.3 $\pm$ 7.4	218.8 $\pm$ 18.9
87.4 $\pm$ 11.1	289.3 $\pm$ 19.2
116.5 $\pm$ 14.8	283.3 $\pm$ 18.4
174.8 $\pm$ 22.2	148.0 $\pm$ 23.7 *
233 $\pm$ 29.6	13.0 $\pm$ 4.9 *
291.3 $\pm$ 37	0.0 $\pm$ 0.0 *

\* Significant differences to control ( $p < 0.05$ ).



**Figure S1.** Representative images of *Enchytraeus crypticus* adults when exposed during 5 days in ISO water to polystyrene nanoplastics (NPIs). Black arrows indicate NPIs agglomeration/aggregation or adsorption in the clitellum/cocoon area.