

**Supplementary Table A1** References used in percentage change calculation for survival in Figure 1

		Holoplankton			
	Copepods	Daphnids	Brine shrimps	Krills	Rotifers
(A) MPs (0.1–10 µm)	Lee et al. (2013) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Ma et al. (2016) (1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Puranen Vasilakis (2017) (0–1 mg L <sup>-1</sup> ) Horton et al. (2018) (0–1 mg L <sup>-1</sup> ) Rehse et al. (2016) (1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Tang et al. (2019) (1–10 mg L <sup>-1</sup> ) Martins & Guilhermino (2018) (0–1 mg L <sup>-1</sup> ) Pacheco et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> ) Ziajahromi et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Ogonowski et al. (2016) (0–1, 1–10 mg L <sup>-1</sup> ) Rist et al. (2017) (0–1 mg L <sup>-1</sup> ) Gorokhova et al. (2018) (0–1 mg L <sup>-1</sup> ) Lin et al. (2019) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Kim et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Zhang et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Zhang et al. (2019) (0–1, 1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Aljaibachi & Callaghan (2018) (0–1 mg L <sup>-1</sup> )	Gambardella et al. (2017) (0–1, 1–10 mg L <sup>-1</sup> ) Wang et al. (2019) (0–1, 1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Peixoto et al. (2019) (0–1, 1–10 mg L <sup>-1</sup> )		Gambardella et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> )
(B) MPs (10–100 µm)	Cole et al. (2015) (0–1 mg L <sup>-1</sup> ) Syberg et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Vroom et al. (2017) (0–1 mg L <sup>-1</sup> ) Beiras et al. (2019) (0–1, 1–10 mg L <sup>-1</sup> )	Ma et al. (2016) (1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Rehse et al. (2018) (>10 <sup>2</sup> mg L <sup>-1</sup> ) Frydkjaer et al. (2017) (1–10, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Imhof et al. (2017) (1–10 mg L <sup>-1</sup> )		Dawson et al. (2018a) (0–1, 1–10 mg L <sup>-1</sup> ) Dawson et al. (2018b) (0–1, 1–10 mg L <sup>-1</sup> )	
(C) MPs (>100 µm)		Rehse et al. (2016) (10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> ) Jemec et al. (2016) (10–10 <sup>2</sup> mg L <sup>-1</sup> ) Ziajahromi et al. (2017) (0–1, 1–10 mg L <sup>-1</sup> ) Kokalj et al. (2018) (10–10 <sup>2</sup> mg L <sup>-1</sup> )	Kokalj et al. (2018) (10–10 <sup>2</sup> mg L <sup>-1</sup> )		

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**Table A1 (Continued)** References used in percentage change calculation for survival in Figure 1

Meroplankton							
	Fishes	Urchins	Bivalves	Gastropods	Barnacles	Decapods	Ascidians
(D) MPs (0.1–10 µm)	Beiras et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> ) Karzenberger (2015) (1–10, 10–10 <sup>2</sup> , > 10 <sup>2</sup> mg L <sup>-1</sup> ) Batel et al. (2018) (0–1 mg L <sup>-1</sup> )	Martínez-Gómez et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Messinetti et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Gambardella et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> ) Kaposi et al. (2014) (0–1, 1–10 mg L <sup>-1</sup> )	Tallec et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Lo & Chan (2018) (0–1, 1–10 mg L <sup>-1</sup> )	Gambardella et al. (2017) (0–1, 1–10 mg L <sup>-1</sup> ) Bhargava et al. (2018) (1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )		Messinetti et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Messinetti et al. (2019) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )
(E) MPs (10–100 µm)	LeMoine et al. (2018) (10– 10 <sup>2</sup> mg L <sup>-1</sup> ) Batel et al. (2018) (1–10 mg L <sup>-1</sup> )					Weinstein (2015) (0–1 mg L <sup>-1</sup> )	
(F) MPs (> 100 µm)	Romano et al. (2018) (0–1 mg L <sup>-1</sup> ) Choi et al. (2018) (10–10 <sup>2</sup> , > 10 <sup>2</sup> mg L <sup>-1</sup> )						

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**Table A2** References used in percentage change calculation for transgenerational effects in Figure 2

	Bivalves	Daphnids	Copepods
(A) Survival	Sussarellu et al. (2016)	Aljaibachi & Callaghan (2018) Martins & Guilhermino (2018)	Lee et al. (2013) Cole et al. (2015)
(B) Growth (body length)	Sussarellu et al. (2016)	Martins & Guilhermino (2018) Imhof et al. (2017) Ziajahromi et al. (2017)	Cole et al. (2015)
(C) Development time			Lee et al. (2013)
(D) Fecundity		Aljaibachi & Callaghan (2018) Martins & Guilhermino (2018)	Lee et al. (2013)

**Table A3** References used in percentage change calculation for development time Figure 3

	Holoplankton		Meroplankton	
	Copepods	Brine shrimps	Decapods	Fishes
(A) MPs (0.1–10 µm)	Lee et al. (2013) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Jeong et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Wang et al. (2019) (0–1, 1–10 mg L <sup>-1</sup> )	(B) MPs (0.1–10 µm)	Beiras et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> )
			(C) MPs (10–100 µm)	Weinstein (2015) (0–1 mg L <sup>-1</sup> )

**Table A4** References used in percentage change calculation for body length, body width and arm length in Figure 4

	Holoplankton		
	Copepod (body length)	Daphnids (body length)	Brine shrimps (body length)
(A) MPs (0.1–10 µm)		Puranen Vasilakis (2017) (0–1 mg L <sup>-1</sup> ) Pacheco et al. (2018) (0–1, 1–10 mg L <sup>-1</sup> ) Martins & Guilhermino (2018) (0–1 mg L <sup>-1</sup> ) Ziajahromi et al. (2017) (0–1, 1–10 mg L <sup>-1</sup> ) Rist et al. (2017) (0–1 mg L <sup>-1</sup> ) Jaikumar et al. (2019) (0–1 mg L <sup>-1</sup> ) Bosker et al. (2019) (0–1, 1–10 mg L <sup>-1</sup> ) Aljaibachi & Callaghan (2018) (0–1 mg L <sup>-1</sup> )	Wang et al. (2019) (0–1, 1–10 mg L <sup>-1</sup> )
(B) MPs (10–100 µm)	Cole et al. (2019) (0–1 mg L <sup>-1</sup> )	Imhof et al. (2017) (1–10 mg L <sup>-1</sup> ) Colomer et al. (2019) (1–10 mg L <sup>-1</sup> )	
(C) MPs (>100 µm)		Ziajahromi et al. (2017) (0–1 mg L <sup>-1</sup> ) Kokalj et al. (2018) (10–10 <sup>2</sup> mg L <sup>-1</sup> ) Jemec et al. (2016) (10–10 <sup>2</sup> mg L <sup>-1</sup> )	Kokalj et al. (2018) (10–10 <sup>2</sup> mg L <sup>-1</sup> )

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**Table A4 (Continued)** References used in percentage change calculation for body length, body width and arm length in Figure 4

Meroplankton					
	Fishes (body length)	Sea urchins (body length)	Sea urchins (body width)	Sea urchins (arm length)	Bivalves (body length)
(D) MPs (0.1–10 µm)	Katzenberger (2015) (10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> )	Martínez-Gómez et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Messinetti et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Messinetti et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Cole & Galloway (2015) (0–1 mg L <sup>-1</sup> ) Rist et al. (2019) (0–1 mg L <sup>-1</sup> )
(E) MPs (10–100 µm)	Karami et al. (2017) (0–1 mg L <sup>-1</sup> ) LeMoine et al. (2018) (1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Martínez-Gómez et al. (2017) 1–10, >10 <sup>2</sup> mg L <sup>-1</sup> )	Kaposi et al. (2014) (0–1, 1–10 mg L <sup>-1</sup> )	Kaposi et al. (2014) (0–1, 1–10 mg L <sup>-1</sup> )	
(F) MPs (>100 µm)	Malinich et al. (2018) (0–1 mg L <sup>-1</sup> )				

**Table A5** References used in percentage change calculation for body weight in Figure 5

Holoplankton		Meroplankton		
	Daphnids (body weight)	Krills (body weight)	Fishes (body weight)	Decapods (body weight)
(A) MPs (0.1–10 µm)	Gerdes et al. (2019) (10–10 <sup>2</sup> mg L <sup>-1</sup> ) Tang et al. (2019) (1–10 mg L <sup>-1</sup> ) Ogonowski et al. (2016) (0–1, 1–10 mg L <sup>-1</sup> )		(C) MPs (0.1–10 µm) (0–1, 10–10 <sup>2</sup> , >10 <sup>2</sup> mg L <sup>-1</sup> )	Katzenberger (2015)
(B) MPs (10–100 µm)		Dawson et al. (2018a) (0–1, 1–10 mg L <sup>-1</sup> )	(D) MPs (10–100 µm) (0–1 mg L <sup>-1</sup> ) (E) MPs (>100 µm) (0–1 mg L <sup>-1</sup> )	Karami et al. (2017) (0–1 mg L <sup>-1</sup> ) Malinich et al. (2018)
				Weinstein (2015) (0–1 mg L <sup>-1</sup> )

**Table A6** References used in percentage change calculation for morphological normality in Figure 6

Meroplankton			
	Fishes	Urchins	Bivalves
(A) MPs (0.1–10 µm)		Martínez-Gómez et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )	Capolupo et al. (2018) (0–1 mg L <sup>-1</sup> ) Tallec et al. (2018) (0–1, 1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> ) Beiras et al. (2018) (10–10 <sup>2</sup> mg L <sup>-1</sup> ) Rist et al. (2019) (0–1 mg L <sup>-1</sup> )
(B) MPs (10–100 µm)		Martínez-Gómez et al. (2017) (1–10, >10 <sup>2</sup> mg L <sup>-1</sup> )	
(C) MPs (>100 µm)	Choi et al. (2018) (1–10, 10–10 <sup>2</sup> mg L <sup>-1</sup> )		

**Table A7** References used in percentage change calculation for feeding rate in Figure 7

		Holoplankton			Meroplankton			
		Copepods	Daphnids	Fishes	Bivalves	Gastropods	Decapods	
(A) MPs (0.1–10 µm)	Cole et al. (2013) (0–1, 1–10 mg L <sup>-1</sup> ) Halland (2017) (0–1 mg L <sup>-1</sup> )	Ogonowski et al. (2016) (1–10 mg L <sup>-1</sup> ) Puranen Vasilakis (2017) (0–1 mg L <sup>-1</sup> ) Rist et al. (2017) (0–1 mg L <sup>-1</sup> )	(C) MPs (0.1–10 µm)	Capolupo et al. (2018) (0–1 mg L <sup>-1</sup> ) Cole & Galloway (2015) (0–1 mg L <sup>-1</sup> ) Rist et al. (2019) (0–1 mg L <sup>-1</sup> )	Lo & Chan (2018) (0–1, 1–10 mg L <sup>-1</sup> )			
(B) MPs (10–100 µm)	Cole et al. (2015) (0–1 mg L <sup>-1</sup> ) Cole et al. (2019) (0–1 mg L <sup>-1</sup> ) Coppock et al. (2019) (0–1 mg L <sup>-1</sup> )		(D) MPs (10–100 µm)				Dedman (2014) (0–1 mg L <sup>-1</sup> )	
			(E) MPs (> 100 µm)	Malinich et al. (2018) (10–10 <sup>2</sup> , > 10 <sup>2</sup> mg L <sup>-1</sup> )				

**Table A8** References used in percentage change calculation for swimming speed in Figure 8

	Holoplankton		Meroplankton		
	Brine shrimps	Rotifers	Fishes	Sea urchins	Barnacles
(A) MPs (0.1–10 $\mu\text{m}$ )	Gambardella et al. (2018) (0–1, 1–10 $\text{mg L}^{-1}$ )	Gambardella et al. (2018) (0–1, 1–10 $\text{mg L}^{-1}$ )	(B) MPs (0.1–10 $\mu\text{m}$ )	Gambardella et al. (2018) (0–1, 1–10 $\text{mg L}^{-1}$ )	Gambardella et al. (2018) (0–1, 1–10 $\text{mg L}^{-1}$ )
			(C) MPs (10–100 $\mu\text{m}$ )	Chen et al. (2017) (0–1 $\text{mg L}^{-1}$ )	
			(D) MPs (>100 $\mu\text{m}$ )	Choi et al. (2018) (10–10 <sup>2</sup> , >10 <sup>2</sup> $\text{mg L}^{-1}$ )	

**Table A9** References used in percentage change calculation for fecundity in Figure 9

	Holoplankton			
	Copepods	Daphnids	Brine shrimps	Rotifers
(A) MPs (0.1–10 $\mu\text{m}$ )	Heindler et al. (2017) (1–10, 10–10 <sup>2</sup> $\text{mg L}^{-1}$ )	Pacheco et al. (2018) (0–1, 1–10 $\text{mg L}^{-1}$ )	Peixoto et al. (2019) (0–1, 1–10 $\text{mg L}^{-1}$ )	Jeong et al. (2016) (0–1, 1–10, 10–10 <sup>2</sup> $\text{mg L}^{-1}$ )
	Jeong et al. (2017) (0–1, 1–10, 10–10 <sup>2</sup> $\text{mg L}^{-1}$ )	Puranen Vasilakis (2017) (0–1 $\text{mg L}^{-1}$ )		
	Lee et al. (2013) (0–1, 1–10, 10–10 <sup>2</sup> $\text{mg L}^{-1}$ )	Ziajahromi et al. (2017) (0–1, 1–10 $\text{mg L}^{-1}$ )		
		Rist et al. (2017) (0–1 $\text{mg L}^{-1}$ )		
		Ogonowski et al. (2016) (0–1, 1–10 $\text{mg L}^{-1}$ )		
		Gerdes et al. (2019) (10–10 <sup>2</sup> $\text{mg L}^{-1}$ )		
		Martins & Guilhermino (2018) (0–1 $\text{mg L}^{-1}$ )		
		Jaikumar et al. (2019) (0–1 $\text{mg L}^{-1}$ )		
		Aljaibachi & Callaghan (2018) (0–1 $\text{mg L}^{-1}$ )		
(B) MPs (10–100 $\mu\text{m}$ )	Cole et al. (2015) (0–1 $\text{mg L}^{-1}$ )	Imhof et al. (2017) (1–10 $\text{mg L}^{-1}$ )		
(C) MPs (>100 $\mu\text{m}$ )		Ziajahromi et al. (2017) (0–1 $\text{mg L}^{-1}$ )		