**Table 1.** MP concentrations in muscle and gut per unit body wet weight and the ratio between muscle and gut concentrations. Data adapted from Abbasi et al. (1) and Barboza et al. (2).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Species** | ***N*** | **Total weight of *N* species (g)** | **MP conc in muscle (#/BWW)** | **MP conc in gut (#/BWW)** | **Ratio (muscle:gut)** | **Reference** |
| *Sillago sihama* | 17 | 972.4 | 0.055 | 0.015 | 3.533 | Abbasi et al., 2018 |
| *Platycephalus indicus* | 12 | 441.6 | 0.109 | 0.057 | 1.921 | Abbasi et al., 2018 |
| *Saurida tumbil* | 4 | 144.4 | 0.083 | 0.069 | 1.200 | Abbasi et al., 2018 |
| *Cynoglossus abbreviatus* | 11 | 833.8 | 0.031 | 0.037 | 0.838 | Abbasi et al., 2018 |
| *Dicentrarchus labrax* | 50 | 17150 | 0.001 | 0.004 | 0.269 | Barboza et al., 2019 |
| *Trachurus trachurus* | 50 | 11400 | 0.003 | 0.004 | 0.673 | Barboza et al., 2019 |
| *Scomber colias* | 50 | 17200 | 0.002 | 0.003 | 0.508 | Barboza et al., 2019 |
| **Average (±SD)** | | | | | 1.28 (±1.13) |  |
| **Minimum** | | | | | 0.27 |  |
| **Maximum** | | | | | 3.53 |  |

**Table 2.** Search terms/strings for each food source in FOSCOLLAB

|  |  |  |
| --- | --- | --- |
| **Food source** | **Search Strings** | |
| Fish | Fish (meat); Freshwater fish; Marine fish; Miscellaneous (misc.) coastal marine fishes; Misc. demersal marine fishes; Misc. freshwater fishes; Misc. pelagic marine fishes |
| Mollusc | Molluscs; Freshwater molluscs; Misc. marine molluscs |
| Crustacean | Crustaceans; Freshwater shrimps or prawns; Shrimps and prawns; Shrimps; common, White shrimp; Freshwater crayfishes |
| Tap Water | Tap water; Filtered tap water |
| Bottled Water | Bottled drinking water; Bottled water; Carbonated bottled drinking water; Flavoured bottled water; Fortified bottled water; Still bottled drinking water |
| Salt | Salt; Salt, flavoured; Salt, iodised; Salt, iodised and fluoridated; Salt, low Sodium; Sea salt |
| Beer | Beer; Beer and beer-like beverage; Ale beer; Lager beer; Beer, strong; Beer, regular; Beer, light; Beer, alcohol-free; Pale ale beer; Dark ale beer; Stout beer; Wheat beer; Beer-like beverages; Low malt beers |
| Milk | Milk; cow milk; cow milk, natural high fat; cow milk, semi skimmed (half fat); cow milk, skimmed (low fat); cow milk, whole |
|  |  |

**Table 3.** Minimum and maximum inhalation rates defined for this study based on Allan and Richardson (3) and Stifelman (4).

|  |  |  |
| --- | --- | --- |
| **Age category** | **Min inhalation rate (m3/day)** | **Max inhalation rate (m3/day)** |
| Toddlers (7 months–4 years) | 4.9 | 16.1 |
| Children (5 – 11 years) | 8.8 | 23.3 |
| Teenagers (12 – 19 years) | 9.5 | 27.9 |
| Adults (20 – 59 years) | 9.7 | 26.7 |
| Seniors (>60 years) | 8.6 | 24.1 |

**Table 4.** Biliary excretion rates (ktis) for human. The rate constants for rat and mouse from Ogawara et al. (5) and Li et al. (6) were rescaled for human with a correction factor of 2.5 which is based on the ratio from the biliary excretion rates of rat:human from Bachler et al. (7).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Material** | **Size (nm)** | **Route of exposure** | **Organism** | **ktis (min-1)** | **Reference** |
| Polystyrene | 50 | Intravenous | Rat | 5.76E-03 | Ogawara et al. (*5*) |
| Polystyrene | 500 | Intravenous | Rat | 5.56E-03 | Ogawara et al. (*5*) |
| Silver NP | 15-150 | Dermal, oral, inhalation | Human | 3.54E-03 | Bachler et al. (*7*) |
| Silver NP | 15-150 | Dermal, oral, inhalation | Rat | 9.00E-03 | Bachler et al. (*7*) |
| Poly(lactic-co-glycolic) acid | 133.5 | Intravenous | Mouse | 4.67E-05 | Li et al. (*6*) |
| Poly(lactic-co-glycolic) acid | 114.8 | Intravenous | Mouse | 4.67E-04 | Li et al. (*6*) |
| Poly(lactic-co-glycolic) acid | 97.4 | Intravenous | Mouse | 1.00E-04 | Li et al. (*6*) |
| Poly(lactic-co-glycolic) acid | 79 | Intravenous | Mouse | 3.87E-04 | Li et al. (*6*) |
| Poly(lactic-co-glycolic) acid | 67 | Intravenous | Mouse | 4.27E-04 | Li et al. (*6*) |
| Poly(lactic-co-glycolic) acid | 57.5 | Intravenous | Mouse | 2.73E-04 | Li et al. (*6*) |
|  |  |  |  |  |  |
|  |  |  | No excretion | 0 | day-1 |
|  |  |  | Minimum | 0.0672 | day-1 |
|  |  |  | Median | 0.614 | day-1 |
|  |  |  | Maximum | 8.30 | day-1 |

**Table 5.** Probability density functions for chemical concentrations on plastic of each source category. Goodness-of-fit analysis was not carried out for these datasets due to low sample size. Distributions with the best fit were evaluated visually.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Chemical** | **Source category** | **Distribution** | **Units** | **Parameters** |
| PCB126 | Pelagic | Exponential† | ng/g lipid | λ=0.225 |
|  | Littoral | Exponential† | ng/g lipid | λ=17.48 |
|  | Packaging | Triangle | µg/kg | min=0  max=7.9 |
|  | Air | Log-logistic‡ | pg/m3 | β=1.12  α=0.155 |
| Lead | Pelagic | Lognormal | mg/kg ww | meanlog=-2.17  sdlog=2.12 |
|  | Littoral | Lognormal | mg/kg ww | meanlog=-1.78  sdlog=1.32 |
|  | Packaging | Lognormal | mg/kg | meanlog=4.00  sdlog=4.00 |
|  | Air | Lognormal | ng/m3 | meanlog=4.22  sdlog=1.88 |
| DEHP | Pelagic | Lognormal | ng/g lipid | meanlog=8.83  sdlog=1.60 |
|  | Littoral | Triangle | ng/g lipid | min=0  max=5284 |
|  | Packaging | Log-logistic‡ | µg/kg | β=0.59  α=89261.05 |
|  | Air | Log-logistic‡ | pg/m3 | β=1.42  α=35594.55 |
| BaP | Pelagic | Lognormal | ng/g lipid | meanlog=6.09  sdlog=3.55 |
|  | Littoral | Exponential | ng/g lipid† | λ=0.023 |
|  | Air | Log-logistic‡ | pg/m3 | β=1.55  α=146.09 |

†λ is the rate constant for an exponential distribution.

‡β is the shape parameter and α is the scale parameter for a log-logistic distribution.

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