Microplastics - Inhalation route - References

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Ageel, H., Harrad, S., Abou-Elwafa Abdallah, M. (2021). Occurrence, human exposure, and risk of microplastics in the indoor environment. Environ. Sci. Processes Impacts. Occurrence, human exposure, and risk of microplastics in the indoor environment – Environmental Science: Processes & Impacts (RSC Publishing).

Allen, S., Allen, D., Phoenix, V.R., Le Roux, G., Jiménez, P.D., Simonneau, A., Binet, S., Galop, D. (2019). Atmospheric transport and deposition of microplastics in a remote mountain catchment. Nature Geoscience, 12, 339-344. Atmospheric transport and deposition of microplastics in a remote mountain catchment | Nature Geoscience.

Amato- Lourenço, L., dos Santos Galvão, L., de Weger, L. A., Hiemstra, P., S., Vijver, M. G. and Mauad, T. (2020) An emerging class of air pollutants: Potential effects of microplastics to respiratory human health? Science of the Total Environment 749, 141676. An emerging class of air pollutants: Potential effects of microplastics to respiratory human health? - ScienceDirect.

AQEG. (2019) Non-exhaust emissions from road traffic. 1907101151_20190709_Non_Exhaust_Emissions_typeset_Final.pdf (defra.gov.uk).

Baensch-Baltruschat, B., Kocher, B., Stock, F., Reifferschied. G. (2020) Tyre and road wear particles (TRWP) – A review of generation, properties, emissions, human health risks, ecotoxicity, and fate in the environment. Science of the Total Environment 733, 137823. Tyre and road wear particles (TRWP) - A review of generation, properties, emissions, human health risk, ecotoxicity, and fate in the environment - ScienceDirect.

Barrero-Moreno, J., Senaldi, C., Bianchi, I., Geiss, O., Tirendi, S., Folgado de Lucena, A., Barahona, F., Mainardi, G., Leva, P. and Aguar-Fernandez, P. (2018) Migration of Polycyclic Aromatic Hydrocarbons (PAHs) from plastic and rubber articles - Final report on the development of a migration measurement method. JRC Technical Reports JRC111476.

JRC Publications Repository - Migration of Polycyclic Aromatic Hydrocarbons (PAHs) from plastic and rubber articles (europa.eu).

Bermúdez, J.R., and Swarzenski, P.W. (2021). A microplastic size classification scheme aligned with universal plankton survey methods. MethodsX, Vol 8, 101516.

A microplastic size classification scheme aligned with universal plankton survey methods - ScienceDirect.

Boucher, J. and Friot, D. (2017) Primary microplastics in the Oceans: A global evaluation of sources. Gland, Switzerland: IUCN. 2017-002-En.pdf (iucn.org).

Bunsell, A.R. (ed.) (2018) Handbook of Properties of Textile and Technical Fibres, 2nd Edition. Woodhead Publishing/Elsevier Ltd, Duxford.

Burkhart, J., Piacitelli, C., Schwegler-Berry, D., Jones, W. (1999). Environmental study of nylon flocking process. J. Toxicol. Environ. Health, Part A, 57, 1-23. Environmental study of nylon flocking process - PubMed (nih.gov).

California Water Boards. (2020) State Water Resources Control Board Resolution No. 2020-0021. Adoption of definition of 'Microplastics in Drinking Water'. rs2020-0021 (ca.gov). Accessed: 01/09/2020.

Catarino, A.I., Macchia, V., Sanderson, W.G., Thompson, R.C., Henry, T.B. (2018). Low levels of microplastics (MP) in wild mussels indicate that MP ingestion by humans is minimal compared to exposure via household fibres fallout during a meal. Environ Pollut. 237: 675-684. Low Levels of Microplastics (MP) in Wild Mussels Indicate that MP Ingestion by Humans is Minimal.pdf;jsessionid=1BC42A04D9E177F3C810388C7FEE987C (plymouth.ac.uk).

Chen, E-Y., Lin, K-T., Jung, C-C., Chang, C-L., Chen, C-Y. (2022). Characteristics and influencing factors of airborne microplastics in nail salons. Science of the Total Environment. Vol. 806 (4): 151472.Characteristics and influencing factors of airborne microplastics in nail salons - ScienceDirect.

Chief Medical Officer (CMO) (2022). Chief Medical Officer's annual report 2022: air pollution. Chief Medical Officer's Annual Report 2022 (publishing.service.gov.uk).

COMEAP. (2015) Statement on the evident for differential health effects of particulate matter according to source or components. Particulate air pollution: health effects of exposure - GOV.UK (www.gov.uk).

COMEAP. (2020) Statement on the evidence for health effects associated with exposure to non-exhaust particulate matter from road transport. COMEAP Statement on the evidence for health effects associated with exposure to non-exhaust particulate matter from road transport (COMEAP Statement non-exhaust PM health effects (publishing.service.gov.uk) Accessed: 19/11/2020.

COMEAP. (2022) Statement on the differential toxicity of particulate matter according to source or constituents. Statement on the differential toxicity of particulate matter according to source or constituents: 2022 - GOV.UK (www.gov.uk).

Cox, K. D., Covernton, G. A., Davies, H. L., Dower, J. F., Juanes, F., Dudas, S. E. (2019) Human consumption of microplastics. Environmental Science & Technology 53, pp. 7068-7074. Human Consumption of Microplastics - PubMed (nih.gov).

Culp, S. J., Gaylor, D. W., Sheldon, W. G., Golstein, L. S. and Beland, F. A. (1998) A comparison of the tumors induced by coal tar and benzo[a]pyrene in a 2-year

bioassay. Carcinogenesis 19, pp 117–124. A comparison of the tumors induced by coal tar and benzo[a]pyrene in a 2-year bioassay - PubMed (nih.gov).

Darquenne, C. (2006). Particle deposition in the lung. Encyclopedia of Respiratory Medicine. Elsevier. PII: B0123708796002891 (sciencedirectassets.com).

Deng, Y., Zhang, Y. Lemos, B. and Ren, H. (2017) Tissue accumulation of microplastics in mice and biomarker responses suggest widespread health risks of exposure. Scientific Reports 7, 46687. Tissue accumulation of microplastics in mice and biomarker responses suggest widespread health risks of exposure - PubMed (nih.gov).

Devereux, R., Ayati, B., Kebede Westhead, E., Jayaratne, R., Newport, D. (2023). Impact of the Covid-19 pandemic on microplastic abundance along the River Thames. Marine Pollution Bulletin (189) 114763. Impact of the Covid-19 pandemic on microplastic abundance along the River Thames - ScienceDirect.

Domenech, J. and Marcos, R. (2021) Pathways of human exposure to microplastics, and estimation of the total burden. Current Opinion in Food Science 39, pp. 144-151. Pathways of human exposure to microplastics, and estimation of the total burden - ScienceDirect.

Donaldson, K., and Lang Tran, C. (2002) Inflammation caused by particles and fibres. Inhalation Toxicology 14, pp. 5-27. Inflammation caused by particles and fibers - PubMed (nih.gov).

Donaldson, K., Murphy, F.A., Duffin, K., Poland, C.A. (2010) Asbestos, carbon nanotubes and the pleural mesothelium: a review of the hypothesis regarding the role of long fibre retention in the parietal pleura, inflammation and mesothelioma. Part Fibre Toxicol. 22;7:5. Asbestos, carbon nanotubes and the pleural mesothelium: a review of the hypothesis regarding the role of long fibre retention in the parietal pleura, inflammation and mesothelioma | Particle and Fibre Toxicology | Full Text (biomedcentral.com).

Dong, C., Chen, C., Chen, Y., Chen, H., Lee, J., Lin, C. (2020). Polystyrene microplastic particles: In vitro pulmonary toxicity assessment. Journal of Hazardous materials, 385 121575. Polystyrene microplastic particles: In vitro pulmonary toxicity assessment – ScienceDirect.

Dris, R., Gasperi, J., Saad, M., Mirande, C. and Tassin, B. (2016) Synthetic fibres in atmospheric fallout: A source of microplastics in the environment? Marine Pollution Bulletin 104, pp. 290-293. Synthetic fibers in atmospheric fallout: A

source of microplastics in the environment? - PubMed (nih.gov).

Dris, R., Gasperi, J., Mirande, C., Mandin, C., Guerrouache, M., Langlois, V. and Tassin, B. (2017) A first overview of textile fibres, including microplastics, in indoor and outdoor environments. Environmental Pollution 221, pp. 453-458. A first overview of textile fibers, including microplastics, in indoor and outdoor environments - PubMed (nih.gov).

ECCC & HC. (2020) Science assessment of plastic pollution. Science assessment of plastic pollution - Canada.ca. Accessed: 23/12/2020.

ECHA. (2017) Annex XV Report. An evaluation of the possible health risks of recycled rubber granules used as infill in synthetic turf sports fields. Final (europa.eu) Accessed: 14/01/2020.

ECHA. (2019) Annex XV Restriction Report Proposal for a Restriction for intentionally added microplastics. Microsoft Word - rest_microplastics_axvreport_en.docx (europa.eu). Accessed: 10/11/2020.

EFSA. (2009) The potential risks arising from nanoscience and nanotechnologies on food and feed safety. The EFSA Journal 958, pp. 1-39. The Potential Risks Arising from Nanoscience and Nanotechnologies on Food and Feed Safety (wiley.com) Accessed: 01/09/2020.

EFSA. (2016) Presence of microplastics and nanoplastics in food, with particular focus on seafood. The EFSA Journal 14, 4501. Presence of microplastics and nanoplastics in food, with particular focus on seafood (wiley.com) Accessed: 04/08/2020.

EFSA. (2021) Guidance on risk assessment of nanomaterials to be applied in the food and feed chain: human and animal health. The EFSA Journal 19(8), 6768. Guidance on risk assessment of nanomaterials to be applied in the food and feed chain: human and animal health (wiley.com).

EFSA. (2020) EFSA Guidance on technical requirements for regulated food and feed product applications to establish the presence of small particles including nanoparticles. Draft-Nano-Technical-Guidance-For-Public-Consultation.pdf (europa.eu) Accessed: 10/11/2020.

Enyoh, C.E., Verla, A.W., Verla, E.N., Ibe, F.C., Amaobi, C.E. (2019) Airborne microplastics: a review study on method analysis, occurrence, movement and risks. Environ Monit Assess. 24: 191(11):668. Airborne microplastics: a review

study on method for analysis, occurrence, movement and risks - PubMed (nih.gov).

European Commission, (2011). Commission recommendation of 18 October 2011 on the definition of nanomaterial. Official Journal of European Union, L275, 38–40. Definition of nanomaterial - European Observatory for Nanomaterials (europa.eu).

Fadare, O. O., Wan , B., Guo, L-H. and Zhao, L. (2020) Microplastics from consumer plastic food containers: Are we consuming it? Chemosphere 253, 126787. Microplastics from consumer plastic food containers: Are we consuming it? - PubMed (nih.gov).

Fang, M., Liao, Z., Ji, X., Zhu, X., Wang, Z., Lu, C., Shi, C., Chen, Z., Ge, L., Zhang, M., Dahlgren, R.A., Shang, X. (2022). Microplastic ingestion from atmospheric deposition during dining/drinking activities. Journal of Hazardous Materials, 432: 128674. Microplastic ingestion from atmospheric deposition during dining/drinking activities - PubMed (nih.gov).

Fournier, S.B., D'Errico, J.N., Adler, D.S., Kollontzi, S., Goedken, M.J., Fabris, L., Yurkow, E.J., Stapleton, P.A. (2020) Nanopolystyrene translocation and fetal deposition after acute lung exposure during late-stage pregnancy. Part Fibre Toxicol. 24:17(1):55. Nanopolystyrene translocation and fetal deposition after acute lung exposure during late-stage pregnancy | Particle and Fibre Toxicology | Full Text (biomedcentral.com).

Frias, J.P.G.L and Nash, R. (2019). Microplastics: Finding a consensus on the definition. Marine Pollution Bulletin, Vol 138, 145-147. Microplastics: Finding a consensus on the definition - ScienceDirect.

FSA. (2020) A critical review of microbiological colonisation of nano-and microplastics (NMPs) and their significance to the food chain. A critical review of microbiological colonisation of nano- and microplastics (NMPs) and their significance to the food chain | Food Standards Agency Accessed: 24/08/2020.

Gasperi, J., Wright, S., L., Dris, R., Collard, F., Mandin, C., Guerrouache, M., Langlois, V., Kelly, F. J. and Tassin, B. (2018) Microplastics in air: Are we breathing it in? Current Opinion in Environmental Science & Health 1, pp. 1-5. Microplastics in air: Are we breathing it in? – ScienceDirect.

Grigoratos, T., Martini, G. (2014) Non-exhaust traffic related emissions. Brake and tyre wear PM; Literature review. Non-exhaust traffic related emissions – Brake and tyre wear PM – Publications Office of the EU (europa.eu). Accessed: 17/08/2020.

Halappanavar, S., and Mallach, G. (2021) Adverse outcome pathways and in vitro toxicology strategies for microplastics hazard testing. Current Opinion in Toxicology, 28: 52-61. Adverse outcome pathways and in vitro toxicology strategies for microplastics hazard testing – ScienceDirect.

Hartmann, N. B., Hüffer, T., Thompson, R. C., Hassellöv, M., Verschoor, A., Daugaard, A. E., Rist, S., Karlsson, T., Brennholt, N., Cole, M., Herrling, M. P., Hess, M. C., Ivleva, N. P., Lusher, A. L. and Wagner, M. (2019) Are we speaking the same language? Recommendations for a definition and categorization framework for plastic debris. Environmental Science and Technology 53, pp. 1039-1047. Are We Speaking the Same Language? Recommendations for a Definition and Categorization Framework for Plastic Debris | Environmental Science & Technology (acs.org).

Hillerdal, G., Steinholtz, Rosenhall, L. and Lindgren, A. (1988) Pulmonary fibrosis caused by synthetic textile fibres? VIIth International Pneumoconioses Conference, pp. 1405-1407. Proceedings of the VIIth International Pneumoconioses Conference, Pittsburgh, Pennsylvania, USA, August 23-26, 1988 : Part II = : Transactions de la VIIe Conférence internationale sur les pneumoconioses, Pittsburgh, Pennsylvanie, Etats-Unis, 23-26 août, 1988 : Tome II = Transaciones de la VIIa Conferencia Internacional sobre las Neumoconiosis, Pittsburgh, Pennsylvania EE. UU, 23-26 de agosto de 1988 : Parte II (cdc.gov).

HSE. (2011) Safe to Breathe: Dust and fume control in the rubber industry. Safe to Breathe: Dust and fume control in the rubber industry (hse.gov.uk).

Huerta Lwanga, E., Gertsen, H., Gooren, H., Peters, P., Salánki, T., van der Ploeg, M., Besselingm E., Koelmans, A. A. and Geissen, V. (2016) Microplastics in the terrestrial ecosystem: Implications for **Lumbricus terrestris** (Oligochaeta, Lumbricidae). Environmental Science & Technology 50, pp. 2685-2691. Microplastics in the Terrestrial Ecosystem: Implications for Lumbricus terrestris (Oligochaeta, Lumbricidae) | Environmental Science & Technology (acs.org).

Hurley, R. R., Nizzetto, L. (2018) Fate and occurrence of micro(nano) plastics in soils: Knowledge gaps and possible risks. Current Opinion in Environmental Science and Health 1, pp. 6-11. Fate and occurrence of micro(nano)plastics in soils: Knowledge gaps and possible risks - ScienceDirect.

Jekel, M. (2019) Scientific report on tyre and road wear particles, TRWP, in the aquatic environment a European TRWP Platform publication. FINAL-Scientific-Report-on-Tyre-and-Road-Wear-Particles.pdf (tyreandroadwear.com). Accessed:

19/12/2019.

Jenner, L.C., Sadofsky, L.R., Danopoulos, E., Rotchell, J.M. (2021). Household indoor microplastics within the Humber region (United Kingdom): Quantification and chemical characterisation of particles present. Atmospheric Environment 259 118512. Household indoor microplastics within the Humber region (United Kingdom): Quantification and chemical characterisation of particles present - ScienceDirect.

Jenner, L.C., Rotchell, J.M., Bennett, R.T., Cowen, M., Tentzeris, V., Sadofsky, L.R. (2022). Detection of microplastics in human lung tissue using μFTIR spectroscopy. Scien ce of the Total Environment 831, 154907. Detection of microplastics in human lung tissue using μFTIR spectroscopy - ScienceDirect.

Kim, D., Chae, Y., An, Y-J. (2017) Mixture toxicity of nickel and microplastics with different functional groups on **Daphnia magna.** Environ. Sci. Technol. 51, 21, 12852-12858. Mixture Toxicity of Nickel and Microplastics with Different Functional Groups on Daphnia magna | Environmental Science & Technology (acs.org).

Koelmans, A. A., Nor, N. H. M., Hermsen, E., Kooi, M., Mintenig, S. M., De France, J. (2019) Microplastics in freshwaters and drinking water: Critical review and assessment of data quality. Water Research 155, pp. 410-422.

Koelmans, A.A., Redondo-Hasselerharm, P.E., Nor, N.H.M., de Ruijter, V.N., Mintenig, S.M., Kooi, M. (2022a). Risk assessment of microplastic particles. Nature Review Materials, 7:138-152. Risk assessment of microplastic particles | Nature Reviews Materials.

Koelmans, A.A., Diepens, N.J., Nor, N.H.M. (2022b). Weight of evidence for the microplastic vector effect in the context of chemical risk assessment. Chapter 6, Microplastic in the Environment: Pattern and Process (Editor Michael. S., Bank. 978-3-030-78627-4.pdf (oapen.org).

Kole, P. J., Löhr, A. J., Van Belleghem, F. G. A. J. and Ragas, A. M. J. (2017) Wear and Tear of Tyres: A stealthy source of microplastics in the environment. International Journal of Environmental Research and Public Health 14, 1265. Wear and Tear of Tyres: A Stealthy Source of Microplastics in the Environment - PubMed (nih.gov).

Kwon, J-H., Kim, J-W., Pham, T. D., Tarafdar, A., Hong, S., Chun, S-H., Lee, S-H., Kang, D-Y., Kimn, J-Y., Kim, S-B. and Jung, J. (2020) Microplastics in Food: A review

on analytical methods and challenges. International Journal of Environmental Research and Public Health 17, 6710. Microplastics in Food: A Review on Analytical Methods and Challenges - PubMed (nih.gov).

Li, D., Shi, Y., Yang, L., Xiao, Kehoe, D. K., Gun'ko, Y. K., Boland, J. J. and Wang, J. J. (2020) Microplastic release from the degradation of polypropylene feeding bottles during infant formula preparation. Nature Food 1, pp. 746-754. Microplastic release from the degradation of polypropylene feeding bottles during infant formula preparation - PubMed (nih.gov).

Liebezeit, G. and Liebezeit, E. (2013) Non-pollen particulates in honey and sugar. Food Additives and Contaminants. Part A, Chemistry, Analysis, Control, Exposure and Risk Assessment 30, pp. 2136–2140. Non-pollen particulates in honey and sugar - PubMed (nih.gov).

Liebezeit, G. and Liebezeit, E. (2014) Synthetic particles as contaminants in German beers. Food Additives and Contaminants. Part A, Chemistry, Analysis, Control, Exposure and Risk Assessment 31, pp. 1574–1578. Synthetic particles as contaminants in German beers - PubMed (nih.gov).

Lim, D., Jeong, J., Song, K.S., Sung, J.H., Oh, S.M., Choi, J. (2021) Inhalation toxicity of polystyrene micro(nano)plastics using modified OECD TG 412. Chemosphere 262: 128330. Inhalation toxicity of polystyrene micro(nano)plastics using modified OECD TG 412 - ScienceDirect.

Lu, L., Wan, Z., Luo, T., Fu, Z. and Jin, Y. (2018) Polystyrene microplastics induce gut microbiota dysbiosis and hepatic lipid metabolism disorder in mice. Science of the Total Environment 631-632, pp. 449-458. Polystyrene microplastics induce gut microbiota dysbiosis and hepatic lipid metabolism disorder in mice - ScienceDirect.

Lu, L., Lou, T., Zhao, Y., Cai, C., Fu, Z. and Jin, Y. (2019) Interaction between microplastics and microorganism as well as gut microbiota: A consideration on environmental animal and human health. Science of the Total Environment 667, pp. 94-100. Interaction between microplastics and microorganism as well as gut microbiota: A consideration on environmental animal and human health - ScienceDirect.

Lusher, A., Hollman, P. and Mendoza-Hill, J. (2017) Microplastics in fisheries and aquaculture. Status of knowledge on their occurrence and implications for aquatic organisms and food safety. FAO Fisheries and Aquaculture Technical Paper No. 615. Microplastics in fisheries and aquaculture (fao.org) Accessed: 14/12/2020.

Merola, M. and Affatato, S. (2019) Materials for hip prostheses: A review of wear and loading considerations. Materials 12, 495. Materials for Hip Prostheses: A Review of Wear and Loading Considerations - PubMed (nih.gov).

Merski, J. A., Johnson, W. D., Muzzio, M., Lyang, N. L. and Gaworski, C. L. (2008) Oral toxicity and bacterial mutagenicity studies with a spun bound polyethylene and polyethylene terephthalate polymer fabric. International Journal of Toxicology 27, pp. 387-395. Oral toxicity and bacterial mutagenicity studies with a spunbond polyethylene and polyethylene terephthalate polymer fabric - PubMed (nih.gov).

MILC. (2016) Mothers' information on lactation and collection (MILC) study. The MILC Study Accessed: 14/08/2020.

Nel, A. E., Mädler, L., Velegol, D., Xia, T., Hoek, E. M. V., Somasundaran, P., Klaessig, F., Castranova, V. and Thompson, M. (2009) Understanding biophysicochemical interactions at the nano-bio interface. Nature Materials 8, pp. 543–557. Understanding biophysicochemical interactions at the nano-bio interface - PubMed (nih.gov).

Ng, E-L., Huerta Lwanga, E., Eldridge, S. M., Johnston, P., Hu, H-W., Geissen, V., Chen. D. (2018) An overview of microplastic and nanoplastic pollution in agroecosystems. Science of the Total Environment 627, pp. 1377- 1388. An overview of microplastic and nanoplastic pollution in agroecosystems - ScienceDirect.

Nguyen, B., Claveau-Mallet, D., Hernandez, L. M., Xu, E. G., Farner, J. M. and Tufenkji, N. (2019) Separation and analysis of microplastics and nanoplastics in complex environmental samples. Accounts of Chemical Research 52, pp. 858-866. Separation and Analysis of Microplastics and Nanoplastics in Complex Environmental Samples | Accounts of Chemical Research (acs.org).

O'Brien, S., Rauert, C., Ribeiro, F., Okoffo, E.D., Burrows, S.D., O'Briend, J.W., Wang, X., Wright, S.L., Thomas, K.V. (2023). There's something in the air: A review of sources, prevalence and behaviour of microplastics in the atmosphere. Science of the Total Environment 874, 162193. There's something in the air: A review of sources, prevalence and behaviour of microplastics in the atmosphere (sciencedirectassets.com).

Pauly, J. L., Stegmeier, S. J., Allaart, H. A., Cheney, R. T., Zhang, P. J., Mayer, A. G. and Streck, R. J. (1998) Inhaled cellulosic and plastic fibres found in human lung tissue. Cancer Epidemiology, Biomarkers and Prevention 7, pp. 419-428. Inhaled cellulosic and plastic fibers found in human lung tissue - PubMed (nih.gov).

Peez, N., Janiska, M-C. and Imhof, W. (2019) The first application of quantitative ^{1}H NMR spectroscopy as a simple and fast method of identification and quantification of microplastic particles (PE, PET, and PS). Analytical and Bioanalytical Chemistry 411, pp. 823-833. The first application of quantitative 1H NMR spectroscopy as a simple and fast method of identification and quantification of microplastic particles (PE, PET, and PS) | Analytical and Bioanalytical Chemistry (springer.com).

Pimentel, J. C., Avila, R. and Lourenço, A. G. (1975) Respiratory disease caused by synthetic fibres: a new occupational disease. Thorax 30, pp. 204-219. Respiratory disease caused by synthetic fibres: a new occupational disease. - PMC (nih.gov).

Pivonsky, M., Cermakova, L., Novotna, K., Peer, P., Cajthaml, T. and Janda, V. (2018) Occurrence of microplastics in raw and treated drinking-water. Science of the Total Environment 643, pp. 1644-1651. Occurrence of microplastics in raw and treated drinking water - PubMed (nih.gov).

Prata, J.C. (2018). Airborne microplastics: Consequences to human health? Environmental Pollution, 234, 115-126. Airborne microplastics: Consequences to human health? - ScienceDirect.

Qui, L., Lu, W., Tu, C., Li, X., Zhang, H., Wang, S., Chen, M., Zheng, X., Wang, Z., Lin, M., Zhang, Y., Zhong, C., Li, S., Liu, Y., Liu, J., Zhou, Y. (2023). Evidence of microplastics in broncoalveolar lavage fluid among never-smokers: A prospective case series. Environ Sci Technol, 57(6):2435-2444. Evidence of Microplastics in Bronchoalveolar Lavage Fluid among Never-Smokers: A Prospective Case Series - PubMed (nih.gov).

RAC. (2020) Opinion on an Annex XV dossier proposing restrictions on intentionally added microplastics. b4d383cd-24fc-82e9-cccf-6d9f66ee9089 (europa.eu). Accessed: 14/12/2020.

Rahman, A., Sarkar, A., Yadav, O.P., Achari, G., Slobodnik,J. (2021) Potential human health risks due to environmental exposure to nano- and microplastics and knowledge gaps: A scoping review. Sci Total Environ. 25; 757: 143872. Potential human health risks due to environmental exposure to nano- and microplastics and knowledge gaps: A scoping review - PubMed (nih.gov).

Rochman, C., M., Brookson, C., Bikker, J., Djuric. N., Earn, A., Bucci, K., Athey, S., Huntington, A., McIlwraith, H., Munno, K., De Frond, H., Kolomijeca, A., Erdle, L., Grbic, J., Bayoumi, M., Borrelle, S. B., Wu, T., Santoro, S., Werbowski, L. M., Zhu, X., Giles, R. K., Hamilton, B. M., Thaysen, C., Kaura, A., Klasios, N., Ead, L, Kim, J.,

Sherlock, C., Ho, A. and Hung, C. (2019) Rethinking microplastics as a diverse contaminant suite. Environmental Toxicology and Chemistry 38, pp. 703-711. Rethinking microplastics as a diverse contaminant suite - PubMed (nih.gov).

RUBIAC. (2007) RUBIAC statement on occupational cancers. HSE - Rubber - RUBIAC Statement on Occupational Cancers. Accessed: 17/07/2020.

SAM. (2019) Environmental and Health Risks of Microplastic Pollution.: ec_rtd_sam-mnp-opinion_042019.pdf (europa.eu) Accessed: 17/08/2020.

SAPEA. (2019) A scientific perspective on microplastics in nature and society. Available at: [PDF] A Scientific Perspective on Microplastics in Nature and Society | Semantic Scholar

SEAC. (2020) Opinion on an Annex XV dossier proposing restrictions on intentionally added microplastics. 5a730193-cb17-2972-b595-93084c4f39c8 (europa.eu). Accessed: 14/12/2020.

Schneider, T., Burdett, G., Martinon, L., Brochard, P., Guillemin, M., Teichert, U. and Draeger, U. (1996) Ubiquitous fiber exposure in selected sampling sites in Europe. Scandinavian Journal of Work, Environment and Health 22(4), pp. 274-284. Ubiquitous fiber exposure in selected sampling sites in Europe - PubMed (nih.gov).

Sun, X-D., Yuan, X-Z., Jia, Y., Feng, L-J., Zhu, F-P., Dong, S-S., Liu, J., Kong, X., Tian, H., Duan, J-L., Ding, Z., Wang, S-G., Xing, B. (2020) Differentially charged nanoplastics demonstrate distinct accumulation in *Arabidopsis thaliana.* Nature Nanotechnology, 15, 755-760. Differentially charged nanoplastics demonstrate distinct accumulation in Arabidopsis thaliana | Nature Nanotechnology.

Teuten, E. L., Saquing, J. M., Knappe, D. R. U., Barlaz, M. A., Jonsson, S., Björn, A., Rowland, S. J., Thompson, R. C., Galloway, T. S., Yamashita, R., Ochi, D., Watanuki, Y., Moore, C., Viet, P. H., Tana, T. S., Prudente, M. P., Boonyatumanond, R., Zakaria, M. P., Akkhavong, K., Ogata, Y., Hirai, H., Iwasa, S., Mizukawa, K., Hagino, Y., Imamura, A., Saha, M. and Takada, H. (2009) Transport and release of chemicals from plastics to the environment and to wildlife. Philosophical Transactions of the Royal Society B 364. Article ID: 20080284. Transport and release of chemicals from plastics to the environment and to wildlife - PubMed (nih.gov).

Toussaint, B., Raffael, B., Angers-Loustau, A., Gilliland, D., Kestens, V., Petrillo, M., Rio-Echevarria, I.M. and Van den Eede, G. (2019) Review of micro-and nanoplastic

contamination in the food chain. Food Additives & Contaminants: Part A, 36(5), pp. 639-673. Review of micro- and nanoplastic contamination in the food chain - PubMed (nih.gov).

Tsuda, A., Henry, F.S., Butler, J.P. (2013). Particle transport and deposition: basic physics and particle kinetics. Compr Physiol, 3(4): 1437-1471. Particle transport and deposition: basic physics of particle kinetics - PMC (nih.gov).

UKWIR. (2019) Sink to river – River to tap: A review of potential risks from nanoparticles and microplastics. Sink to River - River to Tap. A review of potential risks from nanoparticles and microplastics - Drinking Water Inspectorate (dwi.gov.uk).

Uoginte, I., Vailionyte, A., Skapas, M., Bolanos, D., Bagurskiene, E., Gruslys, V., Aldonyte, R., Bycenkiene, S. (2023). New evidence of the presence of micro- and nanoplastic particles in bronchioalveolar lavage samples of clinical trial subjects. Heliyon, 9 e19665. New evidence of the presence of micro- and nanoplastic particles in bronchioalveolar lavage samples of clinical trial subjects (cell.com).

van Raamsdonk, L. W. D., van der Zande, M., Koelmans, A. A., Hoogenboom, R. L. A. P., Peters, R. J. B., Groot, M. J., Peijnenburg, A. A. C. M. and Weesepoel, Y. J. A. (2020) Current insights into monitoring, bioaccumulation, and potential health effects of microplastics present in the food chain. Foods 9, 72. Current Insights into Monitoring, Bioaccumulation, and Potential Health Effects of Microplastics Present in the Food Chain - PubMed (nih.gov).

Verschoor, A. J. (2015) Towards a definition of microplastics. Towards a definition of microplastics (rivm.nl). Accessed: 04/08/2020.

Verschoor, A., de Valk, E. (2016) Emission of microplastics and potential mitigation measures: Abrasive cleaning agents, paints and tyre wear RIVM Report 2016-0026. Emission of microplastics and potential mitigation measures (rivm.nl). Accessed: 17/08/2020.

Villarrubia-Gómez, P., Cornell, S.E. and Fabres, J. (2018). Marine plastic pollution as a planetary boundary threat–The drifting piece in the sustainability puzzle. Marine Policy, 96, pp. 213-220. Marine plastic pollution as a planetary boundary threat – The drifting piece in the sustainability puzzle - ScienceDirect.

Wagner, S., Hüffer, T. Klöckner, P., Wehrhahn, M., Hofmann, T. and Reemtsma, T. (2018) Tire wear particles in the aquatic environment - A review on generation, analysis, occurrence, fate and effects. Water Research, 139, pp. 83-100. Tire wear

particles in the aquatic environment - A review on generation, analysis, occurrence, fate and effects - PubMed (nih.gov).

Walker, D.I., Baker-Austin, C., Smith, A., Thorpe, K., Bakir, A., Galloway, T., Ganther, S., Gaze, W., Lewis, C., Quill, E., Russel, J., van Hoytema, N. (2022). A critical review of microbiological colonisation of nano- and microplastics (NMP) and their significance to the food chain. A critical review of microbiological colonisation of nano and microplastics and their significance to the food chain.

Wheeler, K.E., Chetwynd, A.J., Fahy, K.M., Hong, B.S., Tochihuitl. J.A., Foster, L.A., Lynch, I. (2021). Environmental dimensions of the protein corona. Nature Nanotechnology, **16**,617-629. Environmental dimensions of the protein corona | Nature Nanotechnology.

Winkler, A., Santo, N., Ortenzi, M. A., Bolzoni, E., Bacchetta, R. and Tremolada, P. (2019) Does mechanical stress cause microplastic release from plastic water bottles? Water Research 116, 115082. Does mechanical stress cause microplastic release from plastic water bottles? - PubMed (nih.gov).

Winkler, A.S., Cherubini, A., Rusconi, F., Santo, N., Madaschi, L., Pistoni, C., Moschetti, G., Sarnicola, M.L., Crosti, M., Rosso, L., Tremolada, P., Lazzari, L., Bacchetta, R. (2022). Human airway organoids and microplastic fibers: A mew exposure model for emerging contaminants. Environment International, 163, 107200. Human airway organoids and microplastic fibers: A new exposure model for emerging contaminants - PubMed (nih.gov).

WHO. (2013) Review of evidence on health aspects of air pollution – REVIHAAP Project Technical Report. REVIHAAP Final technical report final version (who.int). Accessed: 03/01/2020.

WHO. (2019) Microplastics in drinking-water. Microplastics in drinking-water (who.int) Accessed: 17/08/2020.

WHO. (2022) Dietary and inhalation exposure to nano- and microplastic and potential implications for human health particles. 9789240054608-eng.pdf (who.int).

Wright, S., L., Ulke, J., Font, A., Chan, K. L. A. and Kelly, F. J. (2020) Atmospheric microplastic deposition in an urban environment and an evaluation of transport. Environment International 136, 105411. Atmospheric microplastic deposition in an urban environment and an evaluation of transport (sciencedirectassets.com).

Yao, J., Wen, J., Li, H., Yang, Y. (2022) Surface functional groups determine adsorption of pharmaceuticals and personal care products on polypropylene microplastics. Journal of Hazardous Materials, Vol 423, Part B, 127131. Surface functional groups determine adsorption of pharmaceuticals and personal care products on polypropylene microplastics - ScienceDirect.

Yu, X., Xu, Y., Lang, M., Huang, D., Guo, X., Zhu, L. (2022). New insights on metal ions accelerating the aging behavior of polystyrene microplastics: Effects of different excess reactive oxygen species. Science of The Total Environment. Volume 821, 153457. New insights on metal ions accelerating the aging behavior of polystyrene microplastics: Effects of different excess reactive oxygen species - ScienceDirect.

Zhang, Q., Xu, E.G., Li, J., Chen, Q., Ma, L., Zeng, E.Y., Shi, H. (2020). A review of microplastics in table salt, drinking water and air: Direct human exposure. Environmental Science & Technology, 54(7), 3740-3751. A Review of Microplastics in Table Salt, Drinking Water, and Air: Direct Human Exposure | Environmental Science & Technology (acs.org).

Zhao, Q., Ma, C., White, J. C., Dhankher, O. P., Zhang, X., Zhang, S. and Xing, B. (2017) Quantitative evaluation of multi-wall carbon nanotube uptake by terrestrial plants. Carbon 114, pp. 661-670. Quantitative evaluation of multi-wall carbon nanotube uptake by terrestrial plants - ScienceDirect.

Zhu, K., Hanzhong, J., Jiang, W., Sun, Y., Zhang, C., Liu, Z., Wang, T., Guo, X., Zhu, L. (2022). The first observation of the formation of persistent aminoxyl radicals and reactive nitrogen species on photoirradiated nitrogen-containing microplastics. Environ. Sci. Technol. 56, 2, 779-789. The First Observation of the Formation of Persistent Aminoxyl Radicals and Reactive Nitrogen Species on Photoirradiated Nitrogen-Containing Microplastics | Environmental Science & Technology (acs.org).

Zhu, K., Hanzhong, J., Zhao, S., Xia, T., Guo, X., Wang, T., Zhu, L. (2019). Formation of environmentally persistent free radicals on microplastics under light irradiation. Environ. Sci. Technol. 52, 14, 8177-8186. Formation of Environmentally Persistent Free Radicals on Microplastics under Light Irradiation | Environmental Science & Technology (acs.org).

Zhu, K., Jia, H., Sun, Y., Dai, Y., Zhang,C., Gua, X., Wang, T., Zhu, L. (2020). Long-term phototransformation of miroplastics under stimulated sunlight irradiation in aquatic environments : Roles of reactive oxygen species. Water Research, Volume

173, 115564. Long-term phototransformation of microplastics under simulated sunlight irradiation in aquatic environments: Roles of reactive oxygen species - ScienceDirect.

Zucarello, P., Ferrante, M., Cristaldi, A., Copat, C., Grasso, A., Sangregorio, D., Fiore, M., and Oliveri Conti, G. (2019) Exposure to microplastics (10 μm) associated to plastic bottles mineral water consumption: The first quantitative study. Water Research 157, pp. 365-371. Exposure to microplastics (10 μm) associated to plastic bottles mineral water consumption: The first quantitative study - ScienceDirect.