production and Zebrafish embryo toxicity assay (ZETA) test was conducted in accordance with OECD specific guidelines. Zebrafish embryos were exposed to the test substance with semistatic technique (2.5, 5.5, 12, 25 and 50 ppm). Apical sublethal and endpoints of acute toxicity in zebrafish embryos were checked at 5, 24, 36, 48, 72 and 96 h post-fertilization. Mortality of embryos was found to be around 10% at concentrations levels of 5.5, 12 and 25 ppm of glyphosate, whereas the highest mortality levels were found at the concentration of 50 ppm of glyphosate, with around 95% of embryos' mortality, therefore exceeding the maximum rates established by the OECD. In sublethal effect studies, eggs exposed to ≥5.5 ppm of glyphosate presented a premature hatching rate at 36 h post-fertilization, with the highest hatching rate (40%) corresponding to 25 ppm of glyphosate. Completion of morula and gastrula was found in all concentrations assayed, but mainly in 5.5 and 12 ppm concentrations with around 15% of embryos affected.

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P12-065
Are inhaled iron oxides lung carcinogens?

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A body of evidence will be presented regarding epidemiology, toxicity and lung bioavailability as to whether iron oxides are human lung carcinogens. Observed lung tumours on rats result from a generic particle overload effect and local inflammation that is rat-specific under the dosing conditions of intratracheal instillation. This proposed mode of action is not relevant to real-life human exposure. However emerging differences are seen between 'bulk' iron oxides (particles where 70% are >100 nm) and 'nano' iron oxides (.95% fall on the range 1–100 nm). Evidence suggests 'bulk' iron oxides are not genotoxic/mutagenic, whereas the data for 'nano' iron oxide is conflicting. Genotoxicity was not observed in an in vivo genotoxicity study on 'nano' iron oxides via inhalation. Hypothetically, with the larger surface area of 'nano' iron oxide particulates, toxicity could be exerted via the generation of reactive oxygen species (ROS) in the cell. However, ROS generation as a basis for explaining rodent lung tumourigenicity is only apparent if free iron from intracellular 'nano' scale iron oxide becomes bioavailable at significant levels inside the cell. This would not be expected from 'bulk' iron oxide particles. Furthermore, human epidemiological evidence from a number of studies suggests that iron oxide is not a human carcinogen, and therefore based upon the complete weight of evidence, we conclude that 'bulk' iron oxides are not human carcinogens.

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P12-066
Use of toxicokinetic data in bioaccumulation assessment

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ECHA has observed that a high number of substances are more likely to bioaccumulate in air-breathing organisms than in aquatic species based on screening data (Koa and Kow). The numerical bioaccumulation (B) criteria defined in the REACH regulation do not sufficiently address the bioaccumulation potential of such substances. Elimination half-lives have been proposed as a potential alternative or complementary metric to assess bioaccumulative properties of substances in air-breathing organisms. With a view to explore the potential of using this type of data, we hereby report the generation and preliminary analyses of a data compilation of mammalian elimination half-life data complemented with other available toxicokinetic data. The data compilation consists of both known bioaccumulative substances such as those identified as PBT/vPvB under REACH, and/or POPs under the Stockholm Convention and substances with various bioaccumulation potential such as substances used in veterinary medicines, pesticides and biocides. Elimination half-life data from OECD Toolbox and toxicokinetic data from REACH registration dossiers were also utilised when applicable. Further work is in progress. The data compilation information has been used to analyse the relationships between the chemical structures and elimination half-lives, taking into account the variation in study conditions. The presentation will give an overview of the current work and will discuss the findings from the perspective of assessment approach development.

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Oxytetracycline effects in aquatic and terrestrial biotic systems

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The presence of antibiotics in the environment and their wide dissemination at low concentrations, mainly in the aquatic environment has been detected into surface waters (rivers, lakes, streams, and estuaries). The result from antibiotics release into environment is antibiotic-resistant bacteria apparition. Antibiotics on the biosphere may have impact not only for human health but also on the structure and activity of aquatic and terrestrial systems. Because oxytetracycline (OTC), antibiotic widely used in human and veterinary medicine against Gram-positive, Gram-negative, "Spirochetes", "Mycoplasmas", "Chlamydiae" and "Rickettsiae" microorganisms, could cause an environmental impact, this work tested OTC in aquatic and terrestrial environments, through the use of ecotoxicological assays proposed by the OECD assessing