Following a request from the European Commission, the risks to animal and human health and the environment related to the presence of nickel (Ni) in feed were assessed by the EFSA Panel on Contaminants in the Food Chain (CONTAM Panel). The presence of Ni in feed can arise from both natural and anthropogenic sources. Additionally, certain feed materials contain metallic Ni, since it is used as a catalyst in their production. Based on the differences observed between the Ni exposure levels estimated for different animal species and identified no observed adverse effect levels (NOAELs) and lowest observed adverse effect levels (LOAELs), the CONTAM Panel concluded that any adverse impact of Ni via feed to cattle, pigs, rabbits, ducks, fish, dogs, chickens, horses, sheep, goats and cats is unlikely. Concerning the assessment of human health risks from the presence of Ni in food of animal origin, the CONTAM Panel concluded that in the average population the current levels of chronic exposure to Ni, considering only foods of animal origin, might be of potential concern in the young population, in particular in ‘Toddlers’. In the highly exposed population (95th percentile), the concern also extends to the age class ‘Other children’. Regarding acute dietary exposure, the CONTAM Panel concluded that Ni-sensitized individuals are also at risk of developing eczematous flare-up skin reactions through the consumption of food of animal origin. The contribution of food of animal origin to human dietary exposure to Ni should therefore not be underestimated, particularly in age classes with high dietary exposure to Ni. Release to the environment from manure, resulting from its presence in animal feed, is not a major contributor of Ni deposited onto agricultural soils or to the environment.