Risks of Inorganic Nanoparticles Natural silver and gold nanoparticles exist at very low concentrations in the environment, which makes it difficult to directly evaluate their toxicity.Studies have also demonstrated both acute and chronic toxicity effects of nanoparticles using biological models such as Drosophila melanogaster.These engineered nanoparticles have been widely investigated and have shown various toxic effects on different living organisms, including bacteria, plants, and aquatic as well as terrestrial species.Furthermore, toxicity may vary depending on the type of organism exposed, as studies have shown differences in the response of Gram-positive and Gram-negative bacteria.The formation of ROS leads to oxidative stress, which can damage essential cellular components such as proteins, lipids, and DNA.This is mainly attributed to the presence of natural organic coatings that form in environmental conditions, which can reduce their reactivity and harmful effects.For example, in anoxic environments, nanoparticles can form insoluble metal sulfide layers on their surface, which slows down .their dissolution rate