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Zebrafish as a model organism to evaluation graphene material toxicity¹ MANJUNATHA BANGEPPAGARI, SANG JOON LEE, Pohang University of Science and Technology — Graphene materials constitute one of the most promising types of nanomaterials used in different fields, due to their unique physicochemical properties. This has increased concerns associated with the potential toxicity of graphite materials to humans and the environments. Their accumulation in the aquatic environment generates complications to aquatic habitats as well as to food chains. However, the specific organ toxicity triggered by graphite materials to the developing zebrafish (*Danio rerio*) model and the fundamental mechanisms are yet to be elucidated. Zebrafish is being increasingly employed as a model organism to study graphene material biocompatibility. Thus, in the present study, the toxicity of graphene materials (graphene oxide (GO) and pristine graphene (pG)) on specific organ defects was assessed using zebrafish model. Zebrafish embryos were circulated into the control with treatment of pG and GO, in different environmental concentrations were assessed under numerous toxicity endpoints such as developmental abnormalities, apoptosis, cardiovascular deformities, hepatic formation faults, and neurogenic disruption.

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