The Effects of Diethyl Phthalate on the Reproductive Systems and Developmental Structure of

Artemia Salina

Mariah K. Hewett

Topics in Biology

Joshua Cannon

Summer Ventures in Science and Mathematics

The University of North Carolina at Charlotte

I. Abstract

Artemia salina, commonly referred to as brine shrimp, are small crustaceans that like to live in brackish, salty water. Brine shrimp have six stages of life and, in the right conditions, can reach the juvenile stage in eight days. Diethyl phthalate is an estrogen mimicker that is often found in PVC pipes which carries clean water to our homes. This water is then processed in waste water facilities and dumped into rivers and lakes creating brackish water for brine shrimp. This can lead to diethyl phthalate causing mutagenic effects and lethality. In this experiment, 0.1%, 0.01%, and 0.001% concentrations of diethyl phthalate was combined with marine saltwater to test its effects on brine shrimp. In conclusion, all concentrations of diethyl phthalate are lethal and have several mutagenic effects. This could lead to bioaccumulation of the chemical in the animals of the food chain, eventually accumulating in the body tissue of humans and causing fatal diseases like cancer.