

Nanosilver: Biohazard or Breakthrough

Martinez, Bryan

Nanosilver particles can cause potential threats to animals, the environment, and even humans if taken or exposed to by a large quantity. So, do nanosilver particles commonly found in household items have a negative impact of freshwater ecosystems? It is hypothesized that if the freshwater organism, *Daphnia Magna*, is subjected to nanosilver, then the *Daphnia* will die at rates determined by the silver concentration. Four solutions were made with regular increasing increments of silver (5ug/L, 10ug/L, and 25ug/L). Once the solutions were ready, 10 live *Daphnia* were distributed into each of the cups the next day. After they were distributed, the experiment began. The sampling cups were checked at 2 hours intervals 3 times. The amount of live and dead *Daphnia* were counted and recorded at each interval. Once the last of the data was recorded onto the graphs and tables, the experiment ended. To dispose of the nanosilver, it was poured into a bucket, diluted with water, and drained down the toilet. The *Daphnia magna* were separated into a different cup with pond water and 5 mL of bleach was added to the cup. The plastic cups and all other used materials were thrown away in the trash. Lastly, the data was evaluated.