The Cellular Repertory Effects of Lead Nitrate on Crayfish

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Abstract

Lead nitrate is a primary pollutant that enters streams through aerosolization from synthetic fibers, lead paint, and toys. As it biomagnifies, it can become a chronic problem. This study was conducted to test the effect of lead nitrate on crayfish, a key crustacean to the aquatic food web. In groups of two, crayfish were put into buckets of varying concentrations of lead nitrate. The pH and levels of dissolved oxygen were tested. As the acidity increased around a 0.5% concentration of lead nitrate, the dissolved oxygen increased. Concentrations around 0.5% cause the highest dissolved oxygen levels because the concentrations were not high enough for them to respond by respiring and filtering out water through their gills. Nitrate levels were highest in the gills and muscles in the greatest concentration of lead nitrate solutions. It was concluded that constant exposure to lead nitrate is most harmful.