Environmental Impact of Batteries on Animal and Human Health Through Soil and Groundwater Contamination

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I was watching the news one day and heard about a little boy who died due to swallowing a button cell battery. I thought how could a battery that seems coated and protected kill anyone? The young 23 month old boy died 4 days after ingesting the battery. It had burned, “through his esophagus, intestines and aorta causing catastrophic bleeding,¨ according to the Daily Mail. The purpose of my experiment is to analyze the effects of button cell batteries on human tissue, soil, in relation to landfills and groundwater. When I conducted my experiment. I took 10 plates. Nine had a mix of soil, bologna, water and 1 battery cell on them. The last plate was the battery only. Once the experiment was set up I started the timer and 30 minutes collected data. In the charts you can see the average change over time within the 3 test areas. The button cell on the meat/soil and just meat had the greatest amount of discharge starting at the 60 minute mark. Over time the meat/soil plate had the most burn and discharge from the battery. It took 4 hours before discharge leaked out of the battery on just the soil. However, it does tell you that when batteries come in contact with a moist surface chemical discharge and corrosion begin to release chemicals to the environment around it. It is obvious that batteries are terrible for human health and can even be deadly. The human body activates decomposition of the battery which releases many of the toxins stated above.

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