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### *Using Steel Wool to Remove Arsenic from Drinking Water*

I have investigated on the properties of steel wool to create a more efficient adsorbent for removing arsenic from drinking water. For maximum efficiency I made iron oxide from steel wool to increase surface areas where arsenic would react and bond. Once the arsenic is bonded to the steel wool, we can remove it from water when we filter out the steel wool particles. Removing arsenic from drinking water to satisfy whomever is drinking water standards (10  $\mu\text{g}$  of arsenic /L) is extremely important because 60 million people in Bangladesh have been drinking arsenic contaminated water for over 30 years. As arsenic builds up in their body, many will get cancer and eventually die. I used an arsenic test kit called "Quick" to measure the concentrations and used a photo editing device called "The Gimp" to evaluate the samples accurately. I have done two kinetic studies and one isotherm test to evaluate the efficiency of using steel wool as an adsorbent. My research shows that oxidized steel wool is a more efficient adsorbent than standard steel wool because it has a greater surface area.