Abstract

Corrosion Explosion is about the exothermic reaction that occurs when steel corrodes and turns into iron oxide (rust). My experiment was to determine which solvent-- lemon juice, vinegar, or distilled water (the distilled water would be substitute for acid rain) -- would corrode the steel wool with a hotter exothermic reaction. In my hypothesis, I stated that I thought the lemon juice would corrode the steel wool with a hotter exothermic reaction. My experimentation proved my hypothesis correct. The interesting thing about my experiment is even though the lemon juice had the hottest exothermic reaction, the vinegar samples were the ones that caused the most corrosion to the steel wool. The vinegar was a constant 80 *F when it was corroding, unlike the lemon juice and distilled water which kept on reaching a high temperature in the beginning of their corrosion and then cooled down. This was interesting to find out because we had already discovered that the lemon juice was the acid that caused the hottest exothermic reaction and the vinegar which had a cooler exothermic reaction had corroded the steel wool more. This is even more peculiar because the distilled water had the coolest exothermic reaction and the least corrosion, the lemon juice had the hottest exothermic reaction but the second most corrosion, while the vinegar which was the odd sample, had the second hottest exothermic reaction (a constant 80 *F) and the most corrosion, which was interesting to find out from my science fair project, Corrosion Explosion.