

Mary Jane Woody
1-31-23
Chemistry

Combustion of a Metal - Lab Report

Research Question: What happens in the combustion of a metal?

Introduction

Heating a metal will cause combustion to occur. I will use a small amount of iron filling in this lab to conduct a carefully regulated combustion process.

Procedure

Use aluminum foil for the oil light. Put ethanol in the oil lamp, then ignite it with a match. Shake the oil fills from the container into the flame after that, taking care not to dump them or to look directly into the flame. If you want to take photos of the experiment, use your phone. Once finished, put a metal cap over the flame to extinguish it.

Results

Iron fillings before being heated.



Iron fillings after they've been heated.

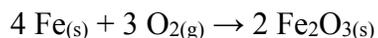


When the iron fillings were being heated it looked like a sparkler and then it looked like a match on fire.

Conclusion

A chemical reaction takes place when a metal burns. In this instance, iron oxide was the newly created material (rust). As a result, some of the iron fillings looked darker, duller, or somehow discolored.

This reaction's chemical equation is:



Because fire needs oxygen to ignite, combustion reactions require the presence of oxygen. The "fuel" for fire is oxygen.

Metal oxide is the new chemical that is created when metals burn.

Vocabulary

Combustion reaction - A reaction in which one of the reactants is burned, with oxygen acting as the other reactant and serving as the fire's fuel.

Metal - An element with specific properties, such as being bright and flexible as well as being conductive of heat and electricity. It is located to the right of the "stair case" on the Periodic Table.

Homonuclear Diatomics - Particular elements that have two atoms bound together in a molecular structure as opposed to only one atom. For instance, rather than existing as a single oxygen atom, oxygen exists as a molecule, which is made up of two connected oxygen atoms. When describing it as a molecule present in a chemical reaction, O₂, is used instead of merely O.