

Ian Black

Research Question: How does the combustion of a metal happen?

Introduction

When a metal is heated it will undergo combustion so in this lab we will do a combustion reaction with iron fillings.

Procedures

Under an oil lamp, place some aluminum foil. Put ethanol in the oil lamp and light it. After that, hold the iron fillings in the flame and note any changes to the iron. Last, put out the flame with the iron top.

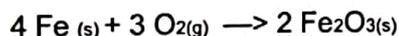
Results:

The iron fillings are discolored and darker like in the pictures.

Conclusions

Metal in a combustion is a chemical reaction. In this experiment, the reaction was iron turning into rust (iron oxide). This is why the fillings turned from a light grey color to dark grey and black.

Chemical equation for reaction:



All reactions that are combustion require Oxygen in the presence fire will not burn without Oxygen.

I conclude that the combustion of metals creates a metal oxide.

Vocab:

- Combustion reaction - a reaction that involved the burning of a reactant, with oxygen as the other reactant to provide fuel for the fire.
- Metal - an element to the right of the "stair case" on the periodic table having scientific properties, such as being shiny and malleable as well as conductive of heat and electricity.
- Homonuclear diatomic - Specific elements that exist, in the molecular state, as two atoms bonded rather than a single atom. For example, oxygen exists as a molecule as a pair of oxygen atoms bonded, rather than just as a molecule present in a chemical reaction.

Virtual Metal Combustion Lab Photos

Iron fillings before they have been heated.



Iron fillings after they have been heated.

