

2009 Fun with Science Camp

A Chemiluminescence Reaction

Safety: Wear safety glasses. Use gloves when handling the reagents. Clorox II and 3-aminophthalhydrazide can irritate the skin and damage eyes. Potassium ferricyanide and Clorox II are harmful if swallowed. Wash hands after finishing the lab.

Using the balance: Use the top-loading balance on the sides of the room to measure the mass of each reactant. The solids will be added directly to a beaker. To facilitate the measurement, the balance will be *tared* between additions. Taring refers to a process of zeroing a balance with materials still on the balance pan. The instrument will then read 0.00 g, and will record just the mass of substances added after the taring.

Instructions:

1. Place a 250-ml beaker on the top-loading balance.
2. Zero (tare) the balance. The balance should now read 0.00 g.
3. Add about 64 g of Clorox II to the beaker. The balance will indicate just the amount added.
4. Tare the balance again; the balance should now read 0.00 g.
5. Add about 4 g of potassium ferricyanide. The balance will indicate just the amount added.
6. Tare the balance one more time.
7. Add 0.2 g (a tiny amount) of 3-aminophthalhydrazide to the beaker. The instructor may do this.
8. Remove the beaker from the balance (zero for the next user) and stir the contents.
9. Take into a darkened area.
10. Add a few mL of water, stir with a stirring rod, and observe.