

Flame Tests

Purpose

To illustrate the colors associated with various metal salts and relate this to electrons changing levels.

Materials

several evaporating dishes	methanol in wash bottle
nitrate (or chloride) salts of metals (Li, Sr, Cu, Ba, K, Na)	water in wash bottle
Glass stirring rods	matches

Procedure

1. Place a quarter-sized amount of each salt in a separate evaporating dish.
2. Add small amount of water to just begin dissolution.
3. Add about 10 mL of methanol using wash bottle.
4. Stir each with separate stirring rod.
5. Light each with match and dim lights.

Additional Information

1. The amount of methanol will determine how long these burn. Be careful to plan for this.
2. This demonstration can be done interactively as "Name this ion."
3. Initially the methanol will burn as blue to colorless. Stirring may be needed to produce color.

Disposal

Remaining solids/solutions should be placed in properly labeled waste containers with UI# 100965.

Reference

University of Illinois, Urbana-Champaign.