

Reactive Metals

Purpose

To demonstrate reactivity of alkali metals in contact with water.

Materials

1L beakers	Knife
Sodium, potassium, lithium, requested metal	DI water
Tweezers	Petri dishes
phenolphthalein	Mineral oil

Notes

- Minimize the amount of air exposure of metals. Water molecules in the air might start the reaction.
- Make sure to clean the tweezers and knife with DI water and dip them in mineral oil to prevent any contaminants from starting a reaction.
- Cut small pieces unless otherwise authorized.

Procedure

1. Place the beaker(s) out on the lecture hall, fill them up with DI water and place a sheet of filter paper on top of the water so that it floats. The professors may do this step themselves.
2. Instructor will carefully drop the metals onto the filter paper. The purpose of the filter paper is to slow down the reaction by slowing down the hydration of the metal molecules and the removal of the coating of mineral oil. This slow reaction will also allow the metals to burn their respective colors, similar to flame tests.
3. The reaction of pure alkali metals with water makes their respective hydroxides. The addition of phenolphthalein will demonstrate this.

Additional Information/Disposal

1. Water can go down the sink, neutralize if it is too basic.
2. Any unused metals go back into a container in the metals cabinet.