

RH 25 November 2010

SC130 Physical science

Lab 13 (Acid and Base)

Introduction:

This laboratory explores the use of floral and leaf pigments to determine whether a substance is an acid, base, or neutral. An acid is a substance which reacts with a base. Commonly an acid can be identified as tasting sour, reacting with metals such as calcium, and bases like sodium carbonate. Below are the equipments and the procedure that my partner and I did or used to test for our

Equipments:

- Flower
- Hot plate
- Tea pot to heat water
- Many small and medium sized beakers
- Numerous small test tubes
- Spatulas for placing powder into test tubes
- Mortar and pestle for grinding aspirin Roloids
- Paper towels
- X11 color chart

Procedure:

1. boil flower (pink hibiscus)
2. detect acid (lemon lime juice)
3. detect base (baking soda)

Sanolyn and I gathered a lot of different kinds of flower colors. At first we used the purple orchid to test if it was a good indicator of acids or bases, but it turns out to be a bad result of known base. It did conduct a good indicator of known acid but not for base.

Therefore, we picked another flower which was a pink hibiscus and based on our experiment, the pink hibiscus did conduct a good indicator of both acid and base.

Data table 1: testing for litmus solution

Flower Name	solutions
Purple orchid	Original color: "maroon" Color change for known acid: "light green" Color change for known base: "none" or neutral
Pink hibiscus	Original color: yellow Color change for known acid: "Pink" Color change for known base: "green"

Table 2: Testing household substances

Substance Names	Color	Determine if acid, base, or neutral
Vinegar	Pink	Acid
Seligs	Pink	Acid
Hand soap	Green	Base
Rolaids	Original color (no change)	Neutral
Drano	Green	Base
Diluted bleach	Green	Base
Ammonia	Green	Base
Salt	Original color (no change)	Neutral
Aspirin	Acid	Pink

Analysis:

Data table 1 was a good indicator of both known acid and known base. The pink hibiscus did detect both known acid and known base.

Data table 2 of household substances, we found out that Roluids and salt gave no change on our experiment. There was nothing change when we used to test Roluids and the iodize salt. But for the rest of the household substances, some conduct a good indicator of known acid and some known base; you can just refer back up to the table above.

Conclusion:

In short, this laboratory experiment was fun. Dealing with Acid and base was kind of interesting. I learned a lot by this laboratory experiment especially on the household substances. Detecting acid and base on the household substances did give me a big surprised on the salt. I always thought that salt was an acid, but turns out no. salt was neither an acid nor base, it just a tasty salty. But of course, in some ways acid and base could form salt. For example, acid and bases can also be combined to form water and also salt water. But based on our pink hibiscus it gave no result on Roluids and the iodize salt.