

Liquid analysis

We will be looking at how you would test liquids. Although we are only going to look at six common liquids you might expect to find around the house, the methods for identifying the liquids are similar. The five liquids we will be learning to identify are water, vinegar, lemon juice, hydrogen peroxide ammonia, and rubbing alcohol.

The first test we will do is a simple matter of observing the solutions. Some of the solutions will all look the same at first. But if you look close you will notice a difference. Shake all of the liquid vials and see what happens.

The second test we will do is smell. This is an easy test and is one of the best at identifying the unknowns. But it is not as easy as it sounds. One thing a scientist does not want to do is put a chemical right under their nose and inhale. This is very dangerous. If the chemical is concentrated or a health hazard this can make you very sick or very dead. Therefore, what we do is hold the chemical container out in front of our faces by a few inches. Then we bring a hand toward our nose passing the hand over the top of the open container of the liquid. This will bring just enough of the vapors of the liquid to our noses to smell.

The last test we will do is to test the pH of the liquids. We do this by dipping the glass-stirring rod in the liquid and then touching the rod to a piece of pH paper. We then compare the color against the chart on the side of the vial the pH paper was in.

Here is a chart similar to the one you will fill out. Do your findings agree?

Liquid	Observation	Odor	React w/I ₂	pH
Water	Colorless, Clear	None	None	~6
Ammonia	Cloudy, especially after shaking	Sharp, strong	None	~10
Hydrogen Peroxide	Colorless, Clear, Bubbles when shaken	None	Bubbles	~6
Lemon Juice	Cloudy, yellowish	Light	None	~2
Rubbing Alcohol	Colorless, Clear	Sweet	None	~6
Vinegar	Colorless, Clear	Strong	None	~2
Bleach	Slightly Yellowish	Strong	Clears color	~10

Or another way to look at the problem is with a decision chart. If it is a liquid you would use this one.

