

Notes on Liquid Analysis

Most of the liquids are fairly straight forward to identify. But students should not get in the habit of using the process of elimination as a method of analyzing the liquids. On most of my crime scenes the same liquid is used more than once. It may be found at the crime scene and on one or more of the suspects. Students are then expected to use this evidence as a way of implicating or not implicating the suspect.

The most difficult identification is water or hydrogen peroxide. Hydrogen peroxide naturally decomposes into oxygen and water. It is easy to tell fresh hydrogen peroxide because if the vial or bottle is shaken, the decomposition reaction will be accelerated and the bubbles of oxygen will be easily seen. The spontaneous decomposition oxygen bubbles of older hydrogen peroxide will not be as easy to see. If the suspected hydrogen peroxide is mixed with the Iodine solution, the decomposition reaction will be catalyzed and the bubbles will be seen. If the hydrogen peroxide is even older, this may not work. If yeast is one of the powder unknowns, then the yeast can be mixed with the suspected hydrogen peroxide. The yeast will again catalyze the decomposition reaction. If the hydrogen peroxide is so old that all of the hydrogen peroxide has spontaneously decomposed, it is water, not hydrogen peroxide!