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Experiment #040605-04

“Flash Paper”

A mixture of concentrated nitric and sulfuric acids with nitrate paper to turn it into “flash paper” which is actually nitrocellulose, or gun cotton. This use of “mixed acids” is a standard technique for nitrating many organic substances.

To make flash paper, the type often used by magicians, follow this recipe:

1. Mix 10 mL of concentrated nitric acid with 8 mL of concentrated sulfuric acid by slowly pouring the sulfuric acid into the nitric acid with constant stirring. Be careful, this mixture gets very hot and can severely injure skin and eyes and can easily burn holes in clothing, carpeting and furniture!

2. Pour the mixed acids into a glass dish. NOTE: by using several Petri dishes, one can make several pieces of flash paper at once.

3. Place a piece of toilet paper or tissue paper into the dish and allow it to soak, undisturbed, for 10 minutes.

4. After soaking, the gel-like substance that is produced is actually stronger than the original paper. Transfer the nitrated paper to a clean, dry pane of glass or a smooth plastic cutting board. Do not use metal. Tilt the glass or cutting board to drain off any excess mixed acids (these can be collected in a glass container, neutralized with baking soda, and washed down the drain). Next wash the nitrated paper with a gentle stream of pure water from a washing bottle. Only wash enough to rinse off the excess acids.

5. Allow the nitrated paper to air dry. Do not heat! Once dry, store the resulting flash paper in a tightly closed container.

The resulting flash paper will burn so quickly that when ignited and dropped it will completely burn up before hitting the floor.

Reference: <http://www.newton.dep.anl.gov/askasci/chem99/chem99569.htm>