



<b>ATF-LS-LP5</b> <b>1,8 Diazafluoren-9-one (DFO)</b>	Published Online: <b>March 2018</b>
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1. **Scope:** DFO is an analog reagent for revealing latent print impressions on paper and raw wood based products, where it reacts with the amino acids contained in human sweat.

2. **References:**

Home Office, Scientific Research and Development, London, England

Payton Scientific, Inc.

3. **Apparatus/Reagents:**

- Fuming Hood
- Low Level Oven
- Alternate Light Source
- **DFO - Stock Solution -**
  1. 1 gram DFO
  2. 200 milliliters methanol
  3. 40 milliliters Glacial Acetic Acid
  4. 200 milliliters Ethyl Acetate

Thoroughly dissolve DFO in methanol and acidic acid. Solution should be stored in dark bottle in cool place.

- **Working Solution -**

1. 60 milliliters Stock solution
2. 50 milliliters Acetone
3. 50 milliliters Xylene
4. 10 milliliters Propanol
5. Add 830 milliliters of petroleum Ether and stir.

4. **Safety Precautions:**

- Lab Coat
- Safety filter goggles
- Safety gloves

This procedure involves the use of hazardous materials. This procedure does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Proper caution should be exercised and the use of personal

protective equipment should be utilized to avoid exposure to dangerous chemicals. Consult the appropriate MSDS for each chemical prior to use.

**5. Procedures:**

1. Spray, dip or paint DFO working solution onto evidence.
2. Allow to air dry.
3. Place evidence into low level oven at 100 to 110 degrees F for 10 minutes.
4. Visualize fluorescence markings using alternate light source or laser.
5. Record positive results.
6. Should be followed with Ninhydrin process.

- 6. Quality Assurance/Quality Control:** Use of DFO may interfere with other forensic examinations; such as, inks, paper, handwriting, indented impressions, body fluids, fibers and paint. The standards and controls for the DFO solution consist of placing test impressions on porous items to make test strips. The test strips are then processed per the procedures listed above. If impressions are visualized under a forensic light source, then the solution may be used to process evidence. The results of the test shall be recorded in the reagent log book.