



**FIN 10.11**

**GENTIAN VIOLET- CRYSTAL VIOLET**

- A. Purpose:** Gentian Violet is a dye that reacts with the fatty components of friction ridge detail residue.
- B. Scope:** Gentian Violet is used to develop friction ridge detail on the adhesive side of tapes, as well as non-porous surfaces that are contaminated with oils and grease.
- C. Equipment**
1. Balance
  2. Beakers
  3. Graduated cylinders
  4. Stir bars
  5. Stir plate
  6. Dark storage bottles
  7. Digital camera
  8. Trays
- D. Chemicals, Reagents, Solvents, Standards**
1. Gentian Violet (Crystal Violet) powder
  2. Distilled and/or tap water
  3. Commercially prepared solution of Gentian Violet (Crystal Violet)
- E. Safety/PPE**
1. This procedure requires the forensic scientist to work with potentially hazardous chemicals. It is the responsibility of the forensic scientist to wear the proper PPE and follow common laboratory chemical handling procedures when using these chemicals. It is also the forensic scientist's responsibility to be familiar with all associated Safety Data Sheets (SDS) prior to working with chemicals.
  2. Appropriate filters must be utilized while using the alternate or UV light source.
- F. Procedure**
1. Prepare or purchase solution.
  2. Immerse the item into the solution for approximately 15 seconds to 1 minute. If the item is too large, the solution may be brushed onto the surface of the item.

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3. Rinse item thoroughly using distilled or tap water.
4. Allow item to air dry thoroughly.
5. Additional development of friction ridge detail may be performed.
6. Photograph using an appropriate filter.

**G. Quality Requirements**

1. See Latent Print Processing Technical Procedure.

**H. Interpretations/Opinions/Report Wording Guidelines**

1. See Latent Print Processing Technical Procedure

**I. Limitations**

1. The reagent is incompatible with porous surfaces that strongly absorb the dye stain, and with tapes containing adhesives which are water-soluble.
2. The color of stained friction ridge detail will fade under strong photo lights or sunlight.

**J. References**

1. <https://www.cbdi.org/start-interactive-chemical-reagent-program.html>
2. Home Office, Police Scientific Development Branch. *Manual of Fingerprint Development Techniques*, 2nd ed.
3. Technical Notes, Lightning Powder Co. Inc., Salem, OR, 2001.
4. U.S. Department of Justice, Federal Bureau of Investigation, Laboratory Division, *Processing Guide for Developing Latent Prints*

**K. Additional Factors**

1. View item visually, or with a red barrier filter or goggles under an alternate light source at 505 nm to 570 nm.
2. The item can be repeatedly stained and rinsed until optimum development occurs.