



TECHNICAL INFORMATION

Crystal Violet (Methyl Violet) Catalog Nos. LV502, LV5021

Application
Development of latent prints on non-porous surfaces. It is especially useful on the adhesive side of tapes and objects contaminated with oil and grease such as hand tools or automobile parts.

Information

Crystal Violet is effective in the development and enhancement of friction ridge detail on non-porous surfaces. This dye stains the fatty components of sebaceous sweat residue in latent prints, producing a highly concentrated, intense PURPLE image. Highly effective on surfaces having a glutinous or sticky adhesive quality, including tape and protective films with adhesive coatings. Also especially useful on objects contaminated with oil and grease such as hand tools or automobile parts.

Considerations

Some of the formulations used with this reagent are toxic and require considerable care in handling and use. Working Solutions are not reusable and



Tools Required	• amber/brown containers with lids for stock and working solutions • glass measuring beaker • Glass stirring rods	• Magnetic stirrer • Distilled water • Hydrochloric acid
Hazards/Safety Info	Warning! Harmful if swallowed; Causes serious eye irritation.	

should be mixed only in quantities needed. All DNA samples should be collected and forensic evidence should be examined prior to using this reagent. Because it is a dye, it can interfere with questioned document analysis as well as forensic examination of hair, fibers, paint, and similar evidence.

Preparation Instructions

Warning! All solutions should be mixed in a well-ventilated area or laboratory hood. Do not mix in presence of open ignition sources or flames. Solvent used in the clearing solution is extremely corrosive, especially in undiluted state.

Working Solution

1. Place 0.1g of Crystal Violet powder into a clean, glass beaker.
2. Measure out 100ml of distilled water into a second, clean beaker.
3. Carefully add the distilled water to the beaker containing the Crystal Violet powder. Because Crystal Violet is difficult to dissolve, use a magnetic stirrer.
4. Transfer the mixed solution to a clean amber/brown container and cap tightly.

Note: Working Solutions are not reusable and should be mixed only in quantities needed.

Clearing Solution

1. Carefully pour 90ml of distilled water into a clean, glass beaker.
2. Slowly add 10ml of hydrochloric acid to the distilled water. **Warning!** Never add water to acid!
3. Transfer solution to a clean container and cap tightly.

Application Instructions

Use on non-porous surfaces and only after forensic evidence has been examined and all physiological samples have been collected. Not recommended for use on dark surfaces. **Note:** Be certain to photograph any visible evidence prior to treatment with Crystal Violet and remember to include a scale.

Latent Prints on Adhesive Surfaces

1. Place a minimal amount of working solution in a shallow tray or dish.
2. Submerge each item to be examined in the working solution. (When working with adhesive-coated tapes, use tweezers to draw the tape through the solution.) It may take several passes before prints are visible. If prints on dark tapes are not visible, consider using another process such as adhesive-side powders (ASP50L or ASP50F).
3. When working with some transparent adhesive tapes, tape curling may result if the non-adhesive side is wet. Place transparent tapes adhesive-side down into the processing solution and allow them to float on the reagent surface.
4. Rinse off any excess dye under running tap water and allow the tape to air dry. Then, photograph any developed prints, being certain to include a scale.

Latent Prints on Oily or Greasy Surfaces

1. Place the object to be examined in a tray. Slowly pour the working solution over the item. Using a spoon or similar device, ladle the working solution over the surface several times until prints appear. Best results occur when the item being processed can be covered with working solution.
2. Rinse the object with running tap water.
3. Allow the item to air dry, and then photograph any developed prints, being certain to include a scale.
4. Due to the surface being oily/greasy, it may not be practical to lift the developed prints. If it is important that prints be lifted for photographic purposes, use SIRCHIE’s GELifters™.

Interpretation Instructions

Results Expected

Fingerprints similar to those shown in the photographs to the right should be visible.

Possible Reasons for Poor or No Results

- Insufficient treatment time. Reprocess the item in the same manner employed before.
- No sebaceous proteins were present on the evidential item in question.



LATENT PRINTS DEVELOPED ON DUCT TAPE

Other Similar Products

Sudan Black (No. LV504)...

Stains fatty components of sebaceous secretions and is very useful on non-porous glass, metal, plastic and waxy surfaces.

Small Particle Reagent (No. SPR100)...

Attaches to sebaceous secretions on non-porous surfaces, particularly those that are wet from recent rain, heavy dew, etc.

Adhesive Side Powders (Nos. ASP100D, ASP100L, ASP400UV)...

Useful on tapes with soft adhesive surfaces. Do not use on tapes that must be moistened to adhere.

References

1. Chesapeake Bay Division International Association of Identification (IAI), "Gentian Violet on Non-porous Surfaces", <<http://www.cbdiai.org/Reagents/gent.html>>, 28, April, 2009.
2. Lee, Dr. Henry C. and R.E. Gaensslen ed. **Advances in Fingerprint Technology**. New York: Elsevier Science Publishing Company; 1991.
3. FBI Laboratory, "Processing Guide for Developing Latent Prints" Gentian Violet, p.12 <www.fbi.gov/hq/lab/fsc/backissu/jan2001/lpu.pdf>, Rev. 2000