

TECHNICAL INFORMATION

Basic Red 28 Catalog No. LV511

Application	Enhancement of latent fingerprints treated with cyanoacrylate fuming on non-porous surfaces.
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Preparation Instructions

Warning! All solutions should be mixed in a well-ventilated area or laboratory hood. Solvents used in these solutions are flammable. Do not mix in presence of open ignition sources or flames.

Prepare a stock solution by measuring and adding the following ingredients to a 1000ml (1 liter) amber/brown glass or nalgene container with a lid:

Stock Solution	Volume
Basic Red 28 dye	2g
Propanol	600ml
Acetonitrile	400ml

Mix solution by gently shaking the mixture for 1-2 minutes.

Stock solutions have a shelf life of 6 months.



Tools Required	• Method for cyanoacrylate fuming (<i>i.e.</i>, No. FR100 Cyanoacrylate Fuming Chamber) • (2) 1000ml (1 liter) or larger amber/brown containers with lids for stock and working solutions • Weighing scale with ability to measure 0.1g increments • Glass or stainless steel measuring cup set/pitcher (milliliters) • Small pan or container • Alternate light source—Blue @ 470nm, Cyan @ 505nm, Green @ 520nm • Orange barrier filter goggles (615nm) • Camera with filter—Orange (or 550 bandpass)			
Hazards/Safety Info	<u>H</u>	<u>M</u>	<u>I</u>	<u>S</u>
	H	2		
	F	1		
	R	0		
	PP	0		

Warning! Powder can be harmful if swallowed or inhaled. Contact may cause allergic reaction. Avoid eye and skin contact. Use of nitrile or latex protective gloves and safety glasses are recommended, especially in solution form. Use in well-ventilated area or laboratory hood. For treatment due to contact, refer to the MSDS.

Caution! Product will stain other surfaces.

Prepare a working 5% solution in a 1000ml (1 liter) or larger amber/brown glass or nalgene container.

<u>Working Solution</u>	<u>Volume</u>
Stock Solution	50ml
Petroleum Ether	950ml

Working solutions have a shelf life equal to the remaining life of the stock solution at time of mixture.

Application Instructions

Best Known Method

1. Treat item with cyanoacrylate. It is recommended that this method only be used on non-porous surfaces. Excessive moisture on the object surface should also be avoided as cyanoacrylate reacts with moisture and detail will not be obtained.
2. Submerge object in working solution of Basic Red 28 using a pan or container.
3. Leave in solution for 1 minute.
4. Remove item and allow to air dry.
5. Use distilled water and rinse off excess dye.
6. Again, allow item to air dry.

Alternatives

1. If object is too large to submerge, pour solution across object into a clean pan. Repeat this process 2-3 times to get good application of the dye to the cyanoacrylate. To complete, follow steps 4-6 above.
2. If object is large or it is not easily movable (i.e., wall or car dashboard), pour solution across treated area while surrounding the specific area with a cotton towel or other absorbent material. Apply until the area treated is saturated with the dye solution. **Caution!** Red 28 will stain other materials and care should be taken to not contaminate other evidence in the area. To complete, follow steps 4-6 above.

Interpretation Instructions

Review Method

Basic Red 28 is a fluorescent dye absorbing wavelengths between 470nm and 550nm. Ambient light should be reduced as much as possible. Latent prints developed using this method should be viewed with an alternate light source (recommended: Green 530nm—No. MMX100 or MMX300) and viewed through orange barrier filter goggles (No. BMS300).

Photography—utilize an orange or (bandpass) BP 550 filter.

Results Expected

Fingerprints similar to those photographed here should be visible under the alternate light source and orange barrier filter goggles.

Possible Reasons for Poor or No Results

1. Fingerprints are smudged or background is stained.
 - 1.1. Caution should be used in the application of the cyanoacrylate. Over fuming of the material can cause additional buildup of the material that will also stain. This will cause the background to be stained and loss of ridge detail.
 - 1.2. Excessive moisture was present on the surface prior to the cyanoacrylate treatment. This would cause excessive buildup of the cyanoacrylate and would cause the background to stain and lose ridge detail.
 - 1.3. Solution could have been too heavy. Only a working solution of 5% should be used for application (see Working Solution). A stock solution or much stronger solution will be too strong.
2. No fingerprints are present.
 - 2.1. Other than there actually being no fingerprints, the cyanoacrylate may not have reacted. This may be due to overly dry conditions. Refume with cyanoacrylate using a fuming hood if possible and add a cup of distilled water to increase moisture content in the chamber.

Other Similar Products

Basic Red 28 is one of several stains used after cyanoacrylate fuming for further print enhancement. Others that are cited are Ardrex, Gentian Violet, Basic Yellow 40, Basic Red 2, and Rhodamine 6G.

References

1. Chesapeake Bay Division International Association of Identification, "Basic Red 28", *Reagents*, <<http://www.cbdi.org/Reagents/br28.html>>, 31, December, 2008.
2. Lee, Dr. Henry C. and R.E. Gaensslen ed. **Advances in Fingerprint Technology**. New York: Elsevier Science Publishing Company; 1991. p 67-72.
3. Mazella, W.D. and C.J. Lennard, Abstract: "Additional Study of Cyanoacrylate Stains", *Journal of forensic Identification*—Volume: 45, Issue: 1, Dated (January/February 1995), <<http://www.ncjrs.gov/App/Publications/abstract.aspx?ID=153470>>, 31, December 2008.