

SIRCHIE

FINGER PRINT LABORATORIES

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TECHNICAL INFORMATION
THE FINDER™ Cyanoacrylate Packets
Catalog No. CNA2000

Application	Development of latent fingerprints on non-porous surfaces such as metal, painted wood, ceramics, plastics, etc.	
Hazards/Safety Info	<p><u>HMIS</u></p> <p>H 2</p> <p>F 2</p> <p>R 1</p>	<p>Warning! Do not wear contact lenses when using this product. Wear safety glasses.</p> <p>Caution! This product may be harmful if inhaled, ingested or contacted by the skin. It is irritating to the respiratory tract, eyes and skin.</p> <p>Caution! It causes the skin to bond strongly and may cause skin burns. Wear chemical resistant gloves.</p> <p>Caution! The fumes, while not toxic, are quite noxious. Use only in a well-ventilated area or use a vapor respirator or chemical fuming hood.</p> <p>For treatment due to contact, refer to the MSDS. <i>Go to www.sirchie.com/support.</i></p>

Information

In the mid-1970s, scientists at the Saga Prefectural Crime Laboratory of the National Police Agency of Japan, first developed cyanoacrylate fuming for the development of latent fingerprints on non-porous surfaces. The process was demonstrated to agents of the U.S. Army CID, who brought the technique to the U.S.A. It is generally accepted that the fumes emitted from Cyanoacrylate cause the moisture deposited by the fingertips on hard surfaces to polymerize; that is, to solidify. The advantage here is that the ridge structure of the latent print is protected by a very hard film, which allows handling and packaging of the evidence for safe transportation to the crime lab or headquarters. The latent prints developed by this method are opaque white in color and several processes are available to add a contrasting color or fluorescence properties to facilitate evidence photography (see “After Treatment” section).

Tools Required	<p>Required:</p> <ul style="list-style-type: none"> • THE FINDER™ Cyanoacrylate packet(s) (No. CNA2000) • Fuming enclosure (i.e. Nos. FR600, FR200, FR100, etc.) to confine cyanoacrylate fumes • Cup of warm water <p>Optional:</p> <ul style="list-style-type: none"> • Large cardboard box may be substituted for fuming chamber • Adhesive tape to seal the cardboard box
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Preparation Instructions

No advance preparation or mixing is required. The cyanoacrylate is pre-mixed to form a gel-like substance, which is applied to the inside surfaces of an aluminum foil packet. The aluminum foil packet (shown to the right) is then factory-sealed prior to shipment.



Application Instructions

Prior to initial use of your chamber for cyanoacrylate fuming, treat all interior glass and polycarbonate surfaces with CYANO-BLOC™ (CNA110) to prevent cyanoacrylate buildup.

Best Known Method

1. To use the FINDER™, merely pull apart the two sides of the packet, and then clip one side inside the fuming chamber as shown above.
2. Best results are achieved when the packet is suspended above the items fumed. Since the fuming compound is a paste, it will not drip on items below.
3. The model FR100 Fuming Chamber would require just one CNA2000 packet. For the best results, when using larger chambers such as the FR200 and FR600, use two packets. When fuming automobile interiors use 3-4 packets.
4. It is strongly recommended that a cup of warm water be placed inside the fuming tank. This increases the humidity inside the chamber and vastly improves the results by reconstituting the moisture content of any latent prints present. You may also use the No. PUM100 Portable Humidifier, especially on the larger fuming tanks.
5. Packets may be resealed using any available tape and may be reused up to approximately 15 hours, depending on conditions.

Notes

- To prevent over-fuming, place your own fingerprints on a control print card such as the No. FR201. Place the card inside in the chamber where it will be visible, as shown to the right, to permit monitoring of development.
- To avoid contaminating non-evidential items with the fumes, store the used packets in a plastic zip-top bag. Used packets may be disposed of in the same manner.
- Cyanoacrylate is best used on non-porous surfaces.

Results Expected

Fingerprints similar to those photographed here should be visible.



RESULTANT PRINT



After Treatment

A number of processes are available to add contrast to latent prints including chemical dyes (visible and fluorescent) and latent print powders. The chemicals most often used are Basic Yellow (No. LV507/LVS500) and Ardrex (LVS600). Both produce fluorescence from blue light excitation. If these reagents are not available, the best visible contrast is created using Silk Black Latent Print Powder No. 101L and/or Magnetic Latent Print Powder (No. M114L/M115L).

Powders are applied using the same methods employed as when dusting untreated surfaces (122L Fiberglass Brush or the 125L Magnetic Wand.)

Caution! Do not apply magnetic powders to surfaces containing ferrous surfaces (iron or steel).

Interpretation Instructions

Cyanoacrylate-developed prints will be raised above the surface permitting easy examination. On light backgrounds, however, clarity of the ridge structure will be difficult to visualize and photograph.

Developing times will vary depending upon several different factors including air temperature and humidity, but typically within a few hours the FINDER method will usually produce visible prints. Use of a fuming control card to determine development progress is strongly recommended.

Possible Reasons for Poor or No Results

1. Fingerprints appear smudged.
 - 1.1. The latent fingerprint itself may have been smudged by the perpetrator when they handled the item or when the evidence collection team recovered it.
 - 1.2. Over fuming can cause additional buildup of the material.
 - 1.3. Humidity in the environment may be too high causing over-coating of the surface.
2. No developed latent prints are present.
 - 2.1. Cyanoacrylate is one of the most sensitive fuming methods available, but the cyanoacrylate may not have reacted. This may be due to overly dry conditions. Refume the items and be certain to add a cup of warm distilled water to the fuming tank. Place the warm water inside the tank for 15-20 minutes prior to repeating the fuming process.
 - 2.2. Check the date of purchase. The material may have dried out if it is over one year old.
 - 2.3. If prints developed on the fuming control card, but none were on the item itself, there probably weren't any latent prints present to begin with.

Other Similar Products

Other cyanoacrylate fuming products include OMEGA-PRINT™ (CNA102/3), the CYANOWAND™ (No. SCW100) and CYANO-SHOT™ (CNA3000).

References

1. Lee, Dr. Henry C. and R.E. Gaensslen ed. **Advances in Fingerprint Technology**. New York: Elsevier Science Publishing Company; 1991.
2. German, Edward, CLPE, FFS, **Cyanoacrylate (Superglue) Fuming Tips**, <www.onin.com>: January 14, 2009.
3. Saferstein, Richard, Ph.D., **Criminalistics, Sixth Edition**, p453. New Jersey: Prentice Hall; 1998.

Notes:

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