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## TECHNICAL INFORMATION

### Portable Fuming Chamber Kit

Catalog Nos. CNA900, CNA990

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#### INTRODUCTION

The CNA900 portable cyanoacrylate fuming chamber kit is designed for field use. Constructed of shatter-resistant 1/4" polycarbonate, the unit is made to disassemble into flat sheets and fit into a tough, nylon carrying case (no tools required).

The chamber volume of approximately 16 gallons is sufficient for processing multiple items and the unit's transparent walls allow for easy monitoring of development. The CNA990 now features two inlet ports. The port located on the upper side of the unit is compatible with the PUM100 Portable Humidifier and for use with the SCW100 Cyanowand™. The port on the lower side accommodates the FR300 DeFumigator™ for easy extraction of cyanoacrylate fumes after processing.

The CNA990 kit includes a starter assortment of expendables: (5) FINDER™ Cyanoacrylate Packets; (2) CNA110A CYANO-BLOC™ pre-treat-



ment/post-treatment pads; magnetic and regular print powders; magnetic applicator; and fiberglass latent print brush.

## **PRECAUTIONS**

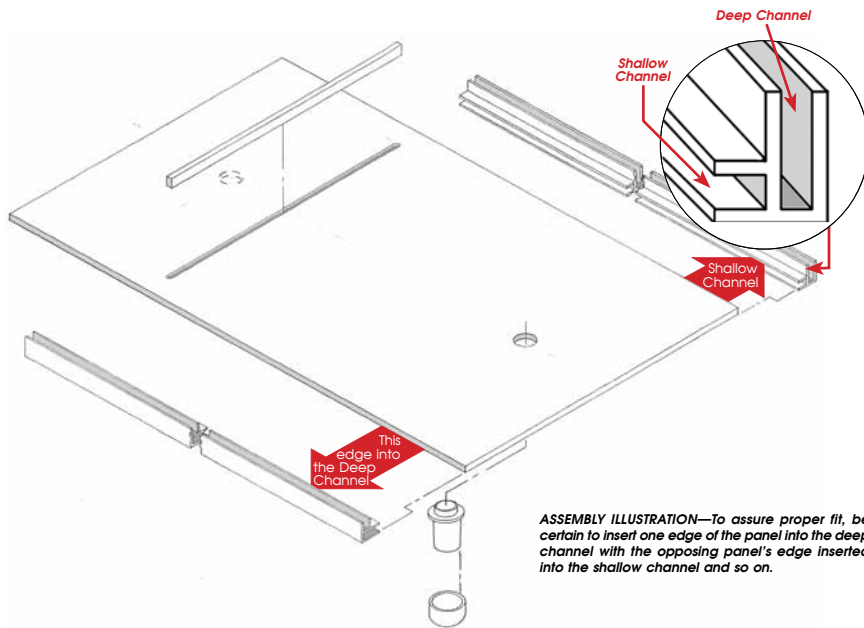
- Before using this kit, consult the appropriate Material Safety Data Sheets (MSDS) found on our website at [www.sirchie.com/support](http://www.sirchie.com/support).
- Use a ducted or recirculating fuming hood when releasing cyanoacrylate fumes from the chamber once fuming is complete; or use the No. FR300 DeFumigator™ to exhaust and filter noxious odors/fumes.
- Wear protective clothing and safety glasses or goggles.
- DO NOT wear contact lenses in the presence of cyanoacrylate fumes.
- DO NOT use FINDER™ Cyanoacrylate Packets if the No. FR300 DeFumigator™ is to be used to remove fumes as the FINDER™ packets continue producing fumes for a considerable time.

## **ASSEMBLY**

Upon receipt of unit, check the following components list of chamber parts prior to assembly and contact the factory if there are any discrepancies.

Instructions:

1. Remove all components from case. Apply CYANO-BLOC™ to all polycarbonate surfaces inside the chamber to prevent cyanoacrylate fume buildup.
2. Stand one of the two side panels with an inlet port upright with the shelf support near the top end.
3. Place one of the plain side panels on an edge channel. Press in on one end to insert it into the channel. Hold the inserted end in place and press in on the other end until the entire length of the panel slides into place. Repeat for the other plain side panel.



4. Place the remaining side panel containing an inlet port over the assembly, matched end-to-end so the edge channels are over the edges of the two side panels. Be sure that the shelf support is at the same end as that on the other panel. Pressing on one corner to insert an edge in a channel. Repeat for other side. Finally, press in on the other ends alternately until the entire length of the panel slides into place.
5. Check to see that the shelf support ledges are towards the top. Verify that the panels with shelf supports are opposite each other and protrude into the chamber. Press down on each panel to square-up the assembly.
6. Place the squared assembly onto the base (14" sq. polycarbonate with no handle and a channel cut into the surface). The four sides should fit down into the channel on the base.
7. Install the inner shelf if needed. The inner shelf is rectangular—orient it so the rod with the evidence clips points towards the shelf support ledges. Center the shelf with equal gaps on each side to ensure best fume circulation.
8. The lid fits securely over the chamber to close the opening.

No. CNA990 Components:

- 2- Side Panels with inner shelf support ledge and edge channels, 12' x 20' (30cm x 51cm)
- 2- Side Panels, 12' x 20' (30cm x 51cm)
- 1- Base, 14' x 14' (36cm x 36cm)
- 1- Top with handle and clips, 14' x 14' (36cm x 36cm)
- 1- Inner Shelf with handle and clips, 12' x 11' (30cm x 28cm)

## BACKGROUND

Cyanoacrylate fuming has been shown to be an effective means of latent print development on surfaces as varied as plastic, carbon paper, Styrofoam, metals, glass, tapes, wood, rubber, leather and rock. Vapors of cyanoacrylate combine with fingerprint residues and polymerize to form a hard, whitish deposit. Once developed, such prints may either be photographed without further treatment, may be enhanced by dusting with

powders for subsequent lifting by tape or stained with dyes such as Ardrox, Crystal Violet or Rhodamine 6G. Prints may also be recorded using fluorescent photography techniques.

## CONSIDERATIONS

Cyanoacrylate fumes are heavier than air and may become layered within the chamber, therefore, development will vary depending upon placement. Acceleration techniques, however, are not needed when using the Cyanowand™ (No. SCW101). Use one or more exemplars of known prints on a dark background to monitor development within the chamber. No. FR201 Fuming Control Card Pad (2.25" x 4", 50 sheet pad) is ideal for this purpose.

Print development can be accelerated through the use of low to moderate heat, humidity, and by circulating the fumes within the chamber. The PUM100 Portable Humidifier may be attached directly to one of the inlet ports built into the side panels of the fuming chamber. Alternately, a container of warm water may be placed into the chamber in the vicinity of the heater element.

***It is better to underdevelop than overdevelop.*** Underdeveloped prints can be enhanced using powders and dyes to increase detail; overdeveloped prints invariably lose detail and hinder enhancement techniques.

### Fuming Agents

Liquid cyanoacrylate (Omega-Print™ CNA102 and CNA103), dispersal pads (CNA104), gel formulations (CNA2000), Cyanowand™ and cartridges (SCW100), or Cyano-Shot™ (CNA3000) may be used as the fuming agent.

- **Omega-Print™ (liquid cyanoacrylate)**—Place several drops of liquid cyanoacrylate onto a CNA1041 Omega-Print™ Dispersal Pad or CNA1061 Omega-Print™ Disposable Fuming Tray and put it onto the fuming chamber floor. Check development after 1/2 hour. Allow at least two hours for results of fuming to become visible before moving to other methods. *DO NOT use large volumes of liquid cyanoacrylate (in excess of 1 gram) as over-development and subsequent loss of evidence is possible.*

- **Omega-Print™ Dispersal Pads**—*DO NOT place pads in contact with any of the polycarbonate surfaces.* If a CNA1041 dispersal pad is employed with liquid cyanoacrylate, use a metal or glass support to elevate the pad off of the chamber floor; a pad in contact with the floor will be glued into place. Additionally, use care not to overfill the pads. If too much glue is placed on the pad, it will drip onto the chamber floor. This may result in evidence being cemented to the chamber floor.
- **The FINDER™ Packets No. 2000 (gel cyanoacrylate)**—Peel apart the FINDER™ packet to release the cyanoacrylate fumes. The gel formulation is sufficiently viscous that the cyanoacrylate will not run; packets may be oriented vertically or horizontally. Using the adhesive strip on the package, attach to one of the four sides or lid of the fuming chamber as close to the top as possible. Packets may be used for more than one session by resealing the foil packet—one packet will produce excellent results for over 10 hours. *NOTE: Use of the FINDER™ Packets is not recommended if the No. FR300 DeFumigator™ is to be used.*
- **Cyanowand™**—This device's cartridges contain a measured amount of polymerized cyanoacrylate which is sublimated and injected into the chamber through the injection port by the Cyanowand™. Dense fumes will fill the entire chamber within minutes. Progress should be monitored using exemplars, as development will be found to be complete within 10-20 minutes.

## ENHANCEMENT TECHNIQUES

Because of their translucent whitish appearance, developed prints may require enhancement before they can be successfully lifted. A number of nondestructive enhancement techniques are available.

### Powders

Cyanoacrylate prints exhibit a three dimensional ridge structure. Powders, especially fluorescent and magnetic powders, may be used to lift prints. Dusting should be carried out in the usual manner; lifting may be photographic or with tapes, rubber lifters, hinge lifters or GELifters™.

Fluorescent Dyes (Ardrox, Basic Yellow, and Rhodamine 6G):

These fluorescing dyes show a specificity for cyanoacrylate polymers. They can be sprayed or brushed onto the developed print, or the print can be immersed in the dye liquid. Allow approximately one minute for the dye to take, then rinse the print thoroughly with water. Ardrox and Basic Yellow can be visualized with longwave UV or with BLUEMAXX™ Illumination; Rhodamine 6G fluoresces best with shortwave illumination. **NOTE:** Consult the appropriate MSDS when using these enhancement methods.

### EXTRACTING CYANOACRYLATE FUMES

Some investigators find cyanoacrylate fumes very objectionable. If you have a ducted or recirculating fuming hood that the CNA990 fits under, there is no problem getting rid of fumes before examining evidence. For those that don't have access to such a hood, SIRCHIE has devised an answer to the problem of how to get rid of the fumes before examining the evidence... the FR300 DeFumigator™! It is a self-contained cyanoacrylate filtration system that connects directly to the CNA990.



The FR300 DeFumigator™ extracts noxious odors and fumes from CNA990.

The noxious odors and fumes inside the chamber are drawn through a >99% efficient filtering system comprised of a HEPA Filter (FR301) and a Bonded Carbon-Activated Filter (FR302). Removable thumbscrews permit quick, easy access to the filter compartment. For more information on the DeFumigator™, visit our website at [www.sirchie.com](http://www.sirchie.com) or call SIRCHIE Sales at (919) 554-2244 or (800) 356-7311.

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**CNA900 CONTENTS:**

- 1- CNA9002 Fuming Chamber w/Shelf and Hangers
- 6- FR1006 Evidence Clips
- 1- CNA2000 FINDER™ Cyanoacrylate Packets, 5 ea.
- 2- CNA110A CYANO-BLOC™ pre-treatment/post-treatment pads
- 1- 101L Silk Black Latent Powder, 2 oz.
- 1- 122L1 Kit Size Fiberglass Latent Print Brush
- 1- M114L Regular Black Magnetic Latent Powder, 1 oz.
- 1- 125L Standard Magnetic Applicator
- 1- CNA9001 Carrying Case, Black Nylon

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