

SMALL PARTICLE REAGENT

(Tray versus spray processing)

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In July, 1989, we received our Small Particle Reagent (SPR). Immediately we began testing various surfaces. We sprayed and sprayed and sprayed with very disappointing results. We then placed the Small Particle Reagent into a proper storage area.....out of sight.

While recently reviewing various processing techniques in the Manual of Fingerprint Development Techniques, Home Office, we discovered in print the distinct advantage of tray development over spraying. Spraying is to be used as a last resort.

In defense of our lack of knowledge as to the advantages of the tray development, every publication that we've read or demonstration we've seen only dealt with spraying the evidence. The commercially prepared solution comes in a spray applicator...why use a tray!

Immediately following the absorption of this new found knowledge, we began processing items with a broad range of surfaces:

- Plastic sandwich bags (including ziplock bags)
- Check savers
- Plastic folders
- Masking tape (non-adhesive side)
- Scotch tape (non-adhesive side)
- Aluminum foil
- Waxed surfaces
- Styrofoam cups
- U.S. currency
- Cash register receipt (paper)
- Plexiglass
- Glass
- Screwdriver (plastic handle and metal shaft)
- Funyun onion flavored rings bag

Although Small Particle Reagent isn't necessarily suitable for use on porous surfaces, we were successful on some items.

Latent prints were intentionally placed on the previously listed items to insure a proper test base since the reagent reacts with fatty deposits. Additional latent prints were developed on several of the items, but the age of the prints are unknown.

In a drug case that was six weeks old, a latent print was developed on a small ziplock bag with SPR, photographed and then lifted. The latent print was searched thru A.F.I.S. resulting in an identification.

The following steps should be followed to obtain the best results:

- 1) Shake the container of working solution and pour enough solution into the tray to cover the item to be processed.
- 2) Immerse item and slowly rock tray to keep the powder suspended.
- 3) Carefully look for development of prints. Do not over process.
- 4) Remove item from solution and if deposits are heavy, carefully agitate in a tray of clean water.
- 5) Hang article to dry at room temperature.
- 6) Photograph, then lift latent prints.

SPR is one of the more effective methods for processing items that are wet.

Another test was initiated where ziplock bags were processed with the SPR, then processed with cyanoacrylate fuming. The reverse process was made using additional ziplock bags. The latent prints that were developed first with the cyanoacrylate and then the reagent were made photographically positive, which eliminates the need for the photographic reversal. These latent prints were then easily lifted. The latent prints that were developed with the SPR then processed with cyanoacrylate were made more stable due to the adherence of the fumes.

Although many of the items that we processed with SPR may be more effectively processed by other methods, we attempted to determine the limitations of Small Particle Reagent.

Information is available in various publications. Examiners need to take the extra time to read these publications and to experiment with the various techniques. Any knowledge that is obtained from experimentation needs to be made available to all.

(SPR may be purchased commercially or produced using the formula from the Manual of Fingerprint Development Techniques, Home Office, London.)