I. Scope: Sudan Black is a dye which stains fatty components of sebaceous sweat to produce a blue-black image. The formulation contains solid particles of dye as well as dye in solution. It is less sensitive than some other processes for latent fingerprint detection, but is of particular use on surfaces which are contaminated with, for example, grease, foodstuffs or dried deposits of soft drinks. In will also enhance super glue developed fingerprints.

II. **References:**

Fingerprint Development Techniques, Scientific Research and Development Branch, Home Office, London, 1988.

Mitsui T, Katho H, Shimada K, Wakasugi Y. "Development of Latent Fingerprints Using a Sudan Black B Solution"; *Identification News*, August 1980, 9, 2.

Stone, R.S.; Metzger R. A.; "Comparison of Develpment Techniques for Water Soaked Porous Items: - Sudan Black B Solution/Magna Powder, *Identifcation News*, January, 1981, 13, 3.

III. **Apparatus/Reagents:**

Non-porous gloves
Fume Hood
Working Solution:

1. Place 15g of Sudan Black B into a clean 2 liter glass beaker.
2. Add 1 liter of Industrial Methylated Spirit and stir with a plastic stirring rod.
3. Add 500ml of distilled water and stir with the plastic stirring rod. This will produce a black working solution. Note: not all of the Sudan black B will dissolve - there will be some particulate matter in the solution.
4. The working solution should be stored in a clean, dry, labeled glass bottle. Working solution will keep indefinitely.

IV. **Safety Precautions:** This procedure involves the use of hazardous materials. This procedure does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this procedure to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Proper caution should be exercised and the use of personal protective equipment should be utilized to avoid exposure to dangerous chemicals. Consult the appropriate MSDS for each chemical prior to use.
Note: Industrial Methylated Spirit is highly flammable.

V. **Procedures:**

1. Ensure that any visible latents have been recorded before treatment with Sudan Black.
2. Shake container of working solution well and pour enough to cover the item of evidence into a clean dry dish.
3. Immerse the item in the working solution (or allow to float on surface) for 2 minutes.
4. Rinse slowly under cold running tap water until excess dye has been removed from the background.
5. Allow item to dry at room temperature (heating is not recommended).
6. Record any observed impressions.

Note: Faint impressions may sometimes be improved by retreatment. For retreatment, begin with step 3 above.

VI. **Quality Assurance/Quality Control:** Documentation of control testing of working solutions of Sudan Black shall be made using the appropriate reagent log. Test solution by placing test impressions on a microscope slide. Expose the slide to a heavy concentration of cyanoacrylate fumes. Then expose to the working solution per the procedures above. If the test prints are visualized, the solution is working properly.

A small area of the evidence should be tested to ensure that the substrate will not be adversely affected by the working solution. Dye stains such as Sudan Black work by staining latent impressions that are composed of fatty components of sebaceous sweat.

Sudan Black is not suitable for use on any porous surface. Sudan black is relatively insensitive to uncontaminated fingerprint impressions. It is also ineffective on dark or printed plastic articles.

Use of Sudan Black can interfere with handwriting, ink, paper and indented impression, body fluids, fibers, hairs, paint and most other forensic examinations.