



## TECHNICAL INFORMATION

### Blood Testing and Detection Kits

#### Catalog No. MBT288, BT001

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#### INTRODUCTION

With the many advances in serology and with the acceptance of DNA profiling, blood has become a highly valuable form of physical evidence. Field tests of dried stains at the crime scene are often essential in locating and making preliminary presumptive identification of blood. Through the utilization of various kits and materials manufactured by SIRCHIE this initial testing becomes a routine function for the investigator. Tests for identifying blood are performed using a non-destructive technique that will not interfere with subsequent testing performed by the crime laboratory. The most widely accepted field tests for blood involve three different chemical processes; phenolphthalein, leuco-malachite green and luminol. Each has its own particular characteristics.

Human blood is a complex mixture of cells, enzymes, proteins, and inorganic substances. This bulletin, however, will consider only the compounds in the blood that are of forensic interest.

#### BLOOD COMPOSITION

**PLASMA (55%)**—Plasma is the fluid part of the blood that transports the various components through the circulatory system.

**CELLULAR COMPONENTS (45%)**—*Corpuscles are protoplasmic particles.*

**White Corpuscles (leukocytes>primary source of DNA)**—White corpuscles kill certain microorganisms and may be

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seen as pus that accumulates at a festering or unhealed wound.

**Red Corpuscles (erythrocytes>ABO antigens)**—Red corpuscles contain hemoglobin, which carries oxygen from the lungs to the body tissues and carbon dioxide from the tissues back to the lungs. Hemoglobin is a protein carrying the red coloration of the red corpuscles. Heme or hematin is a dark brown or blackish substance containing iron, which appears as a result of the decomposition of blood. Globin is the protein component.

**Platelets (thrombocytes)**—Platelets are smaller than the red cells and do not contain hemoglobin. They are associated with the process of blood clotting.

### **BLOOD GROUPS AND TYPES**

An individual's blood will usually fall into one of the four most common blood groups: A, B, AB, and O. Laboratory grouping of fresh, liquid blood is achieved by testing red cells with an antiserum of a known activity and then testing the plasma with cells from a known group.

The red cells carry antigens (proteins, carbohydrates, or fatty carbohydrates), and when the antigens encounter antibodies the process of agglutination or clumping of cells occurs. This reaction can be observed under a microscope.

Dried blood is much more difficult to test. When the red cells are damaged the use of an antiserum may produce unusable results. In that event, more sophisticated techniques such as absorption-inhibition and absorption-elution must be employed.

Other factors may exist in blood such as Rh, AK, PGM, Es-D, and EAP, but their frequency of occurrence is limited. In fact, it has been discovered that more than 100 factors or groups exist, and this information has opened up an entirely new realm of forensic investigation. It is now believed that with the possible exception of identical twins, no two individuals will have the same combination of blood factors.

### **BLOOD AT THE CRIME SCENE**

Crimes of violence often result in the spilling of blood. Homicide, assault, and rape may result in the blood of the victim being transferred to the perpetrator, and the perpetrator may be injured as a result of a struggle with the victim. However, non-violent crimes may also result in bloodletting. During the course of a burglary, the perpetrator may be injured while forcing entry by using tools, breaking windows, or crawling through tight openings.

## Searching the Crime Scene

The search for blood at a crime scene should follow the same track as the search for fingerprints. Begin at the point of entry, and then proceed through the scene following the probable path of the perpetrator.

Locating bloodstains is not always a simple task. Most of the time blood is apparent due to its characteristic color, but it may also be hidden as a result of the perpetrator's efforts to clean up at the crime scene. Just like practically invisible latent fingerprints, invisible latent bloodstains may also be located and recovered.

*Note: Before attempting to collect any blood samples, be certain to photograph them as you found them. First, photograph the stains showing them in relation to other objects; then take close-up photographs that include a scale.*

## Collecting Liquid Blood

In crimes of violence it is often possible to find blood in liquid form. Pools or puddles of blood may occur in different parts of the scene as a result of movement by the victim or perpetrator. Collect liquid blood and place it only in glass containers.

A vacutainer is a commercially available test tube specifically manufactured for the collection and temporary storage of liquid blood samples. As the name implies, the air has been removed from vacutainers since air exposure will cause blood to solidify. A rubber stopper in the tube maintains the vacuum. Several kinds of vacutainers are available, and some contain a blood preservative or anti-coagulant. Consult your crime laboratory technicians as to their preferences.

If using a vacutainer, draw liquid blood up from a pool using a sterile hypodermic syringe. If a commercial tube is not available, use any clean glass container. Do not collect liquid blood in plastic containers because plastic will hasten decomposition. If the area around the perimeter of a pool of blood has begun to dry, collect the dry portion first. The remaining wet portion is likely to contain bacteria that may inhibit certain tests. Collect these blood samples and package them separately.

If a sterile hypodermic needle is not available, a clean bed sheet torn into strips is an ideal medium for collecting wet blood. *Note: If blood is located at two or more locations, collect all samples and package them separately.*

## Collecting Liquid Blood on Absorbent Surfaces

Collecting blood from clothing, furniture, bedding, or carpeting presents a more difficult task. Since blood may not be readily collected using the hypo-vacutainer method, it will be necessary to allow the blood to dry naturally. Laboratory

examination of dried blood is considerably more difficult, so take extra care to avoid damaging the blood cells.

Allow blood-soaked items to air dry naturally, and then package the items in paper or cardboard containers. Use plastic bags only as a temporary storage medium. For example, you might place paper containers on a plastic garbage bag for transmittal from the crime scene to avoid leakage stains. Sealed plastic containers will accelerate the decomposition or spoilage of the samples to be processed.

Avoid temperature extremes when storing collected samples. Every effort should be made to maintain a standard room temperature and atmosphere. Extreme heat or cold may cause unnecessary damage to the blood cells.

Follow established protocols for proper labeling and identification of all samples collected.

#### Collecting Dried Blood Samples

Dried blood may be present in a variety of places within a crime scene, and these bloodstains may be visible or invisible. Photograph visible bloodstains prior to employing any collection method.

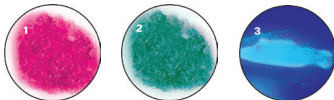
**VISIBLE BLOODSTAINS**—Stains that occur on hard surfaces such as hardwood floors, tile, motor vehicle bodies, and so forth, may be scraped off the surface using a sharp sterile instrument (No. KCP138). If the stain is obviously dry, any kind of clean container may be used for storage. Glass vials, hard plastic vials, or paper envelopes are preferable.

If dried blood is encountered on porous surfaces such as furniture coverings or carpet, it may be necessary to remove the entire object. If removal is impractical, cut out and collect the affected area. An alternative is to moisten sterile cotton swabs (No. KCP160C) with water and thoroughly wipe the surface. Air-dry the swabs before sealing them in containers.

**CHEMICAL FIELD TESTING FOR BLOOD**—Several methods of blood testing are available to crime scene investigators. Use the contact collection method describe below so as not to interfere with subsequent testing. The three most common chemical field tests are: Phenolphthalein, Leuco-Malachite, and Luminol.

Many products are likely to produce stains similar to blood but will not be responsive to blood test reagents. The most common of those products are: eggs, milk, wines, cola soft drinks, whiskey, urine, feces, semen, tomato juice, mayonnaise, coffee, iron rust, inks, tobacco, orange juice, most other food products, and most chemicals/pharmaceuticals.

| TEST                    | SENSITIVITY<br>TO BLOOD | COLOR<br>REACTION       |
|-------------------------|-------------------------|-------------------------|
| 1—Phenolphthalein       | 1:100,000               | Pink-Red                |
| 2—Leuco-Malachite       | 1:300,000               | Blue/Green              |
| 3—Luminol (in darkness) | 1:1,000,000             | Blue/White Luminescence |



### Procedure for Visible Bloodstains

Use either Phenolphthalein or Leuco-malachite to test visible stains to determine whether they are in fact blood. To ensure that the test reagents do not contaminate the stain being tested, use the contact method of testing.

Moisten a piece of clean filter paper with a few drops of distilled water. Press the wet paper against the stain for a few seconds. Place the filter paper on a clean, flat, protected surface, and apply several drops of the reagent to the paper. Within a few seconds the particular color listed above should appear if the stain is blood.

### Procedure for Invisible Bloodstains

The reagent best suited for locating invisible bloodstains is Luminol, which is best applied in a spray. The area to be tested must be totally dark in order to observe the luminescent glow of the color reaction.

Apply the reagent freely over areas suspected of containing blood: freshly mopped floors, weapons, carpets, stairways, etc. Even minute amounts of blood present will produce a reaction.

Also check sink traps for blood traces. Fasten a piece of cotton to the end of a coat hanger or similar device and lower it into the trap. Spray the cotton and observe the reaction. If a positive reaction occurs, drain the remaining water from the trap into a clean container and submit to the crime laboratory.

Note 1: False Positives may occur if Luminol is used on copper or brass. Certain phosphate detergents may also cause a reaction.

Note 2: Luminol will not interfere with subsequent testing with Leuco-Malachite or Phenolphthalein, but it will interfere with certain forms of laboratory testing.

Note 3: The luminescent glow from bloodstains can be visually enhanced using a RUVIS (Reflected Ultraviolet Imaging System) such as the *KRIMESITE™ IMAGER* shown to the right.



### Other Sources of Blood Evidence

While the crime scene (structure or motor vehicle) is the obvious potential source of bloodstains, it is also advisable to search the not so obvious places, such as the victim or the suspect. For example, shoes worn by the suspect could contain blood residues weeks after the occurrence of the crime. Suspect items should be submitted for analysis. The Luminol method of testing is ideal for this purpose because older bloodstains produce the best results with Luminol.



Another possibility to consider is the fact that certain individuals—as many as 80% of the population—are secretors. This means simply that physiological fluids other than their blood contain the *characteristics* of their blood. A secretor's blood type may be determined from analysis of saliva, sweat, tears, urine, vaginal secretions, and semen.

### Examining and Photographing Blood Spatters

Bloodstains can also provide valuable evidence through the examination of blood spatters. The height from which the blood fell and the angle it strikes a surface can be reconstructed in the laboratory, provided proper collection techniques are employed.

1. The height from which the blood fell might reveal whether the victim or suspect was standing or kneeling.
2. If the source of the blood was moving, the angle of incidence can show the direction of travel.

Controlled experiments by trained laboratory personnel are accomplished more easily if certain criteria are met. Accurate photographs of the blood spatters are essential.

1. Photos must include a rule and must be taken at a 90-degree angle to preclude any perspective distortion.
2. The texture of the surface containing the stains must be duplicated;



therefore a sample of the surface material must be submitted. This sample should be as large as possible (1 to 2 feet square) and should come from an area close to the original stains.

The texture of the surface struck by liquid blood plays a considerable part in the resulting patterns. Hard, smooth, non-porous surfaces cause less spatter. Blood striking such a surface will usually break up into smaller droplets, and these droplets will travel in the same direction as the original drop creating a tadpole-like shape with the sharper or pointed ends always pointing back towards their origin. The greater the angle of incidence of the original drop, the more narrow or elongated the resulting stain will be.

It is possible to determine the impact angle of blood on a flat surface by measuring the degree of circular distortion of the stain. Right angle contact gives rise to a nearly circular stain; as the angle decreases, the stain becomes elongated in shape.

Aside from blood typing, bloodstains may be a source of another form of physical evidence—latent fingerprints or footprints.

In many crimes of violence, a profusion of blood occurs. Blood prints may be found on weapons, tools, floors, windows, doors, walls, and furniture. Often these traces of blood are not readily visible due to background color or material texture or because only a small quantity of blood was deposited.

Some blood prints may be highly visible but of little value because the amount of blood on the fingertips or shoes was sufficient to obliterate any detail. The weaker or invisible stains may provide the best evidence.

Weak or invisible prints must first be developed. One method of finding such prints is by spraying Luminol as discussed above. Once suspected stains are pinpointed, spray with a blood print developer such as Aqueous Leuco Crystal Violet (No. LV509) or tetramethylbenzidine found in the BT001 kit. After development, photograph the prints and then lift using the technique described later in this bulletin.



No. LV509

### **PRELIMINARY BLOOD TESTING AT THE CRIME SCENE**

Field tests of dried stains at the crime scene are often essential in locating and making preliminary presumptive identification of blood. Through the utilization of various kits and materials manufactured by SIRCHIE, this initial testing becomes a routine function for the investigator. Tests for identifying blood are performed using a non-destructive

technique that will not interfere with subsequent testing performed by the crime laboratory. The most widely accepted field tests for blood involve three different chemical processes; phenolphthalein, leuco-malachite green and luminol. Each has its own particular characteristics. *Note: All stains suspected of being blood should be chemically checked in the field, especially when their nature is doubtful.*

#### **MBT288 MASTER FIELD AND LAB BLOOD TEST KIT**

This kit contains all the essential equipment for blood testing in any field investigation situation. It has the advantage that all the reagents are furnished in pre-measured quantities in the solid state and sealed in glass ampoules. This method of packaging permits the mixing of reagents in the field without measuring to give optimum concentration and sensitivity. All the necessary support equipment is included. The kit and accessory equipment are also suitable for laboratory use. Through the use of this kit, the field investigator can presumptively identify the presence or absence of blood.



*No. MBT288 Kit and Components*

#### **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).
- Wear protective gloves, and safety glasses/goggles.
- Reagents should be disposed of in accordance with all federal, state, and local regulations.
- Keep all reagents in this kit away from children.

Sensitivity of Tests and Their Positive Reactions

**LUMINOL REACTION**—This is by far the most valuable one known for searching for invisible stains and making preliminary confirmation of visible ones because:

1. It is highly sensitive.
2. It is comparatively specific.



3. It allows rapid search of large areas.
4. It does not interfere with subsequent tests of the same or other types.

**LEUCO-MALACHITE GREEN REACTION**—This test is somewhat less specific than the Phenolphthalein and Luminol reactions. However, the sensitivity of this reagent is greater than the Phenolphthalein and less than the Luminol. Because of its sensitivity, it is of considerable value for subsequent testing upon the completion of the Luminol test on invisible blood.

**PHENOLPHTHALEIN REACTION**—The Phenolphthalein test is the most specific of all the catalytic tests and is comparatively as sensitive. This reagent is dependent upon the presence of heme or hemoglobin as a catalyst to yield a positive reaction.

### **PERFORMING BLOOD TESTS**

#### General Test for Visible Blood

The Leuco-Malachite Green, Phenolphthalein, and Luminol tests may interfere with subsequent laboratory analysis, so unless there is a considerable quantity of blood present the following contact test procedures should be followed:

1. Remove a clean piece of filter paper from its container.
2. Saturate the filter paper with distilled water.
3. Place the wet filter paper on top of the suspected stain and press for ten (10) seconds.
4. Remove the filter paper and perform the color tests directly on it.

#### General Test for Invisible Blood

When performing the Luminol test on invisible blood, the reagent may be applied directly to the suspected area without concern of interference with subsequent contact testing with both the Leuco-Malachite Green and Phenolphthalein.

### **KIT APPARATUS**

All the test reagents are pre-measured and packaged in disposable ampoules. These ampoules should be disposed of after use. The disposable pipettes should also be discarded. This method of packaging ensures unlimited shelf life and eliminates contamination completely.

**AMPOULES (6 ea.: 288L1/L2 Luminol; 288LM1/LM2**

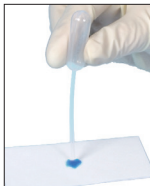
**Leuco-Malachite; 288PX1/PX2 Phenolphthalein)**—All of the reagents are packaged in ampoules and are pre-measured. The ampoules have been pre-scored at the smallest section of the neck to prevent cutting or shattering—this is the break-open point. To open the ampoule simply grasp both ends and break it as shown in the photograph to the right.



*Luminol*

*Leuco-Malachite*

*Phenolphthalein*



**DISPOSABLE PIPETTES (No. 288DP)**—The disposable pipettes are used to evacuate liquid from one ampoule to the other and as an applicator for the mixed reagent (see photo to the left). To use, simply remove the protective clear plastic cover and either fill or evacuate the pipette by squeezing the plastic bottle.

**BLOOD COLLECTION TUBES (No. KCP122)**—Use the glass tubes for storing liquid blood for laboratory analysis. They contain sodium fluoride, a blood preservative. Use the pipettes to pick up liquid samples and transfer to vials.



*No. KCP122 & 288FP*

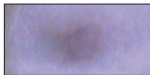
**FILTER PAPER (No. 288FP)**—Use filter paper for contact testing with any of the three reagents using the pipettes.

**REAGENT PREPARATION**

**Luminol**

1. Take an ampoule labeled L1 (black) and break the stem off. This ampoule contains the dry chemical required for the test.
2. Take an ampoule labeled L2 (black) and break the stem off.
3. Utilizing a disposable pipette, evacuate the liquid from L2 ampoule and place it in the L1 ampoule.
4. Use the pipette to mix the solution by evacuating and squeezing the pipette until completely dissolved.

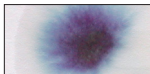
5. Empty the contents of the L1 ampoule into the liquid sprayer.
6. The material is immediately sprayed IN THE DARK on all of the surfaces to be examined.



**POSITIVE REACTION**—Areas (not pinpoint) of luminescence (white-blue glow) should be marked for further color tests by using a crayon or chalk. Some luminescence will appear shortly in the reagent itself. This will not interfere with the strong reaction produced on striking a surface that contains blood, but old reagent solutions should not be used, nor should any delay occur between mixing and applying the reagent. Bloody areas will continue to glow for some time after spraying and compared with the auto luminescence that will be observed at times directly after spraying. Successive spraying will restore the luminescence of faded areas containing blood. Old blood will react much stronger with this reagent as compared to fresh blood.

#### Leuco-Malachite

1. Take an ampoule labeled LM1 (green) and break the stem off.
2. Take an ampoule labeled LM2 (green) and break the stem off.
3. Utilizing a disposable pipette, evacuate the liquid from ampoule LM2 and place it in LM1 ampoule.
4. Use the pipette to mix the solution by evacuating and squeezing until completely combined.
5. Remove some of the mixed reagent from the LM1 ampoule with the disposable pipette.
6. Use the pipette as an applicator for the reagent.



**POSITIVE REACTION**—After making contact, transfer suspected blood stains to a piece of water saturated filter paper as previously discussed, and apply a few drops of reagent from the pipette to the contact area of the filter paper. If a sufficient quantity of blood is present, the reagent may be applied directly to the stain. When blood is present a strong green-blue color will appear.

#### Phenolphthalein

1. Take an ampoule labeled PX1 (red) and break the stem off. This ampoule contains the dry chemical required for the test.

## TI03-79ENG-REV4

2. Take an ampoule labeled PX2 (red) and break the stem off.
3. Utilizing a disposable pipette, evacuate the liquid from the PX 2 ampoule and place it in the PX1 ampoule.
4. Use the pipette to mix the solution by evacuating and squeezing the pipette until completely dissolved.
5. Remove some of the mixed reagent from the PX1 ampoule with the disposable pipette.
6. Use the pipette as an applicator for the reagent.



**POSITIVE REACTION**—Follow the same procedure as outlined for the Leuco-Malachite Green test to apply the Phenolphthalein reagent to suspected bloodstains. A strong pink-red color will appear when blood is present.

### BT001 LATENT BLOOD DETECTION KIT (for Detection of Blood Prints)

In most violent crimes, a profusion of blood is usually a result. Blood prints can be found on the weapon, floor, furniture and victim. In many instances, blood prints are not visible due to background color or the weakness of the blood print itself. To render these latent blood prints visible, the BT001 offers an extremely sensitive method for detection and development of bloody prints on surfaces like plastic, wood, coated papers, metal and glass. Latent blood prints developed through the utilization of these reagents are very clear and chemically stable.

#### Sensitivity of The Blood Test and Its Positive Reaction

| TEST                 | SENSITIVITY TO BLOOD | COLOR REACTION |
|----------------------|----------------------|----------------|
| Tetramethylbenzidine | 1:100,000            | Dark Blue      |

### 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).
- The No. 3 Blood Print Solution, the No. 5 Blood Print Lifter Solution and both of the valve cleaners are highly flammable and toxic—smoking or open flames must be avoided completely when processing.



No. BT001 Kit and Components

- The No. 2 Blood Print Reagent contains acid and should be handled with care! Should the reagent come in contact with the skin, wash thoroughly with soap and water.
- Keep all reagents in this kit away from children.

### KIT APPARATUS

All the test reagents are pre-measured and packaged in disposable vials or bottles. The empties should be properly disposed of after use. The disposable pipettes should also be discarded. This method of packaging ensures unlimited shelf life and eliminates contamination probability completely. Tetramethylbenzidine (Blood Print Solution) has a useful life of about 1 hour after preparation.



Therefore, it should be used as soon as possible after preparation.

**SPRAY BOTTLE (No. SB4)**—The spray bottle is normally only used when the Luminol test is being performed. To use, fill the empty spray bottle with the Luminol reagent by using the pipette, and screw the sprayer head back on. Clean the spray unit by spraying with water after each use.



No. SB4

### REAGENT PREPARATION

#### Tetramethylbenzidine (Blood Print Solution)

1. Remove the plastic cap from the No. 1 Blood Print Powder vial.
2. Fill the No. 1 Blood Print Powder vial to the neck with the solution from No. 2 Blood Print Reagent. Replace the cap and shake vigorously for 1 minute.
3. Use one of the disposable pipettes and evacuate approximately 2/3 of the mixture in the No. 1 Blood Print Powder vial.
4. Remove the cap from a No. 3 Blood Print Solution jar and empty the solution from the disposable pipette into this jar.
5. Remove the plastic cap from a No. 4 Blood Print Activator vial and empty the contents into the No. 3 Blood Print Solution jar using the same pipette.
6. Replace the cap on the No. 3 Blood Print Solution jar and shake vigorously for at least 5 seconds.

7. Remove the cap from the No. 3 Blood Print Solution that has been prepared and extract the contents using the No. 288DP Disposable Pipette.
8. Remove the cap from the No. SB4 Spray Bottle and fill it with the No. 3 Blood Print Solution from the pipette. Screw the sprayer head back on. Clean the spray unit by spraying with water after each use. *Note: The reagent solution is now ready for application to the suspected blood prints.*

#### Applying The Blood Print Solution Reagent

Spray a light coat of the prepared Blood Print Solution to the blood stained areas to be processed. (A camera should be available for use if prints are developed.) Fingerprints will appear almost immediately and clearly in a dark blue color.

**CAUTION:** Due to the sensitivity of the Tetramethylbenzidine Reagent to blood, excessive spray may cause ridge running. A 1:1 ratio fingerprint camera should be available for immediate recording of developed prints. If a 1:1 camera is not available, be certain to include a scale in photos taken with other cameras. Visible blood spots not suspected of yielding ridge detail should not be treated with this reagent and should be collected for subsequent laboratory analysis.

#### Lifting Developed Blood Prints

1. Remove the cap from the No. 5 Blood Print Lifter Solution and extract the contents using the No. 288DP Disposable Pipette.
2. Remove the cap from the No. SB4 Spray Bottle and fill it with the No. 5 Blood Print Lifter Solution from the pipette. Screw the sprayer head back on. Clean the spray unit by spraying with water after each use.
3. The area surrounding the blood print should be marked out by cutting a hole in a piece of paper or cardboard to confine the next step of spraying the developed print to the area of the print only.
4. Spray a medium heavy coat of this solution directly to the developed print. Allow this to dry about 10 minutes and apply a second coat and allow to dry again.
5. Remove a 3" x 4" No. BPD11 Blood Print Lifter from the box.
6. Remove the protective cover from the lifter by separating the cover at the point located by the arrow on the lifter.
7. Apply the adhesive surface of the lifter directly to the developed print that has been sprayed with the No. 5 Blood Print Lifter Solution.



- Carefully press the lifter over the print area firmly and then peel the lifter off the surface. The lifter will remove the coat of No. 5 Lifter Solution and the developed print from the treated surface.
- Cover the lifter with a transparent acetate cover furnished with the lifters. The lifted, developed blood print may be placed directly into a photo enlarger (the same as a conventional photo negative) for making direct enlargements.

### Cleaning The Apparatus

Dispose of the following items in accordance with all federal, state and local guidelines:

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| A. No. 1 Blood Print Powder vial  | C. No. 4 Blood Print Activator vial |
| B. No. 3 Blood Print Solution jar | D. No. 288DP Disposable Pipette     |

The spray head of the No. SB4 Spray Bottle used with No. 3 Blood Print Solution should be cleaned using the No. 7 Blood Print Solution Valve Cleaner. Spray the cleaner through the spray bottle for about 3 seconds.

The spray head of the No. SB4 Spray Bottle used with No. 5 Blood Print Lifter Solution should be cleaned using the No. 6 Blood Print Lifter Valve Cleaner. Spray the cleaner through the spray bottle for about 5 seconds.

Remove any remaining cleaner solution from both spray bottles and store them in the kit. Replace the caps on the cleaner jars and store them in the kit.

#### MBT288 Kit Contents:

- 18- 288DP Pipettes, Disposable, with Capillary and 3ml Bulb
- 2- 288FP Contact Filter Papers, 1" x 2", 25 each
- 6- 288L1 Luminal Ampoule Reagents
- 6- 288L2 Luminal Ampoule Reagents
- 6- 288LM1 Leuco-Malachite Ampoules 1
- 6- 288LM2 Leuco-Malachite Ampoules 2
- 6- 288PX1 PX1 Reagent Ampoules, Phenolphthalein
- 6- 288PX2 PX2 Reagent Ampoules, Phenolphthalein
- 2- DISW2 Bottles of Distilled Water, 2 oz.
- 2- KCP122 Blood Collection Tubes, 7ml, with EDTA
- 1- KCP213 Jar, Flint Glass, with Cap, 1 13/64 oz.
- 15- KCP217 Cotton Balls
- 1- MBT288C Black molded copolymer carrying case, textured w/

folding handle, includes custom molded inserts; Dimensions: 13.5" x 11" x 5.25"; Weight: 3.2 lbs.

#### BT001 Kit Contents:

- 1- 131LT4 Hinge Lifter, Transparent, 4" x 4", 12 each
- 6- 288DP Pipettes, Disposable, with Capillary and 3ml Bulb
- 6- BPD1 Blood Print Powder, 1g
- 2- BPD21 Blood Print Reagent, 1 oz.
- 6- BPD3 Blood Print Solutions, 1 oz.
- 6- BPD4 Blood Print Activators
- 2- BPD51 Blood Print Lifter Solution, 1 oz.
- 2- BPD61 No. 6 Blood Print Lifter Valve Cleaner, 1 oz.
- 1- BPD7 No. 7 Blood Print Solution Valve Cleaner, 1 oz.
- 2- SB4 Spray Bottles, 4 oz.
- 1- BT0011 Carrying Case; Dimensions: 14.5" x 8" x 7"; Weight: 4 lbs.

## BLOOD TEST BELT KITS

The SEARCH Belt Kits offered have been configured to carry the supplies necessary for blood testing. Attach it to your belt to keep it close at hand or grab one when you're on the go. If you don't see a kit that fits your specific needs, we also sell the case (No. KCP306 shown right) separately, so that you can customize your own belt kit.

### PHENOLPHTHALEIN BLOOD TEST BELT KIT

This convenient belt kit keeps phenolphthalein ampoules handy for blood testing. Includes supplies needed for 3 tests.

### LEUCO-MALACHITE BLOOD TEST BELT KIT

Our new belt kit keeps leuco-malachite ampoules handy for blood testing. Includes supplies needed for 3 tests.

### LUMINOL BLOOD TEST BELT KIT

This handy kit keeps luminol ampoules nearby for preliminary blood testing at crime scenes. Includes supplies needed for 3 tests.

**DISCLAIMER:** Because SIRCHIE cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or the accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. The products discussed are sold without warranty, either expressed or implied, and buyer assumes all responsibility for loss or damage arising from the handling and use of our products, whether done in accordance with directions or not.



#### PHENOL100 Kit Contents:

- 3- 288PX1 PX1 Reagent Ampoules, Phenolphthalein
- 3- 288PX2 PX2 Reagent Ampoules, Phenolphthalein
- 1- 288FP Contact Filter Papers, 1" x 2", 25 ea.
- 3- 288DP Pipettes, Disposable w/ Capillary, 3ml Bulb
- 3- KCP247 Sterile Water, 3ml
- 1- PHENOL100C Molded Plastic Belt Style Case; Dimensions: 2.25" x 4.25" x 4" with foam insert

#### LEUCO200 Kit Contents:

- 3-288LM1 Leuco-Malachite Ampoule 1
- 3-288LM2 Leuco-Malachite Ampoule 2
- 1- 288FP Contact Filter Papers, 1" x 2", 25 ea.

- 3-288DP Pipettes, Disposable w/ Capillary, 3ml Bulb

- 3-KCP247 Sterile Water, 3ml

- 1-LEUCO200C Molded Plastic Belt Style Case; Dimensions: 2.25" x 4.25" x 4" with foam insert

#### LUM300 Kit Contents:

- 3-288L1 Luminol Ampoule Reagents
- 3-288L2 Luminol Ampoule Reagents
- 1- 288FP Contact Filter Papers, 1" x 2", 25 ea.
- 3-288DP Pipettes, Disposable w/ Capillary, 3ml Bulb
- 3-KCP247 Sterile Water, 3ml
- 1-LUM300C Molded Plastic Belt Style Case; Dimensions: 2.25" x 4.25" x 4" with foam insert