SIRCHIE®

TECHNICAL INFORMATION
BLUEMAXX™ Amalgam Kits
Catalog Nos. BMA100, BMA200

INTRODUCTION
The BLUEMAXX™ Amalgam, when used in conjunction with any of our orange barrier filters, will permit viewing of saliva, semen, urine, and materials treated with fluorescent dyes, powders, DFO, and other chemicals. Latent prints processed with DFO develop slowly if unaided and may be accelerated by applying heat to the latent print surface. Refer to separate instructions for use of DFO Spray and FACII® Brush.

CAUTIONS
- Before using this kit, consult the appropriate Material Safety Data Sheets (MSDS) found on our website at www.sirchie.com/support.

- Use DFO Spray in a fume hood or ductless workstation. If none are available, wear a NOISH-approved organic vapor filter/respirator (No. PU0010 Dual Filter Multi-Purpose Half Mask Regulator w/PU0011 Filters).

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PROCEDURE

The Amalgam light features 6 powerful **BLUE** Light Emitting Diodes (LEDs) in its primary beam and 2 **RED** LEDs in its secondary beam which are driven by 3 AA-type alkaline batteries that offer 10-12 hours of continuous light at brightest setting. The primary LEDs provide red light intensity from maximum brightness to fully dimmed. The secondary LEDs provide yellow light intensity from fully dimmed to bright. Both the primary and secondary beams offer slow-medium-fast or S.O.S beacons, and signal/morse code. Refer to LAMP OPERATION on how to achieve the different settings.

Primary Beam   *Secondary Beam*

Battery Power and Installation

The Amalgam is equipped to warn you when the battery power becomes insufficient. The secondary LEDs will flicker while the primary LEDs maintain the highest level of brightness allowed by the batteries. A rapid flicker of the primaries indicates that the batteries are ready to be replaced. To temporarily get rid of this warning, dim the brightness level. When the batteries can no longer support the dimmest level of light, the secondary flashing warning will come back on.

1. Using a coin or similar object, pop open the battery case lid (Fig. 1).

2. Install the batteries while observing the proper polarity as shown on the battery case lid (Fig. 2). Snap the battery case lid closed.

FIGURE 1   *FIGURE 2*

BATTERY CASE KEYHOLE

LAMPHEAD KEY

FIGURE 3

Lamp Configuration

1. The Amalgam may be configured in several ways for crime scene and laboratory usage. The lamphead aligns with the corresponding keyhole in the battery case (Fig. 3). Tighten the thumb wheel finger tight to insure that the electrical contacts on the lamphead engage with the contacts of the battery case.

2. With the lamphead secured on the top side of the battery case, the light source is now setup for free-standing (tabletop) or hand-held use (Fig. 4).

3. To install the belt clamp for belt-mounted use, screw the thumb wheel of the clamp into the battery case (Fig. 5).

4. For hands-free (tabletop) operation, install the lamphead on the side of the battery case (Fig. 6). Be certain the key and keyhole are aligned properly. Tighten the thumb wheel finger tight. For headlamp use, position the plastic clip of the headband and snap in place (Fig. 7). Adjust the headband as needed for a comfortable fit.

FIGURE 4	*FIGURE 5*	*FIGURE 6*	*FIGURE 7*

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LAMP OPERATION

The Amalgam Light is equipped with a single push button for primary **(BLUE)** and secondary **(RED)** beam operation in which the intensity can be dimmed or brightened. Both the primary and secondary beams offer slow-medium-fast or S.O.S beacons, and signal/morse code. The lamphead is capable of 180° rotation (Fig. 8).

Primary Beam 6 LEDs

- **ON/OFF**—Press and release the push button, turning the light on at its brightest intensity level. Press and release again to turn the unit OFF.

- **BRIGHTNESS CONTROL**—With the lamp ON, press and hold the push button to dim the beam's intensity level. Release the button at desired brightness. (There will be a "blink" when the lamp has reached the lowest lighting level.) To turn OFF the light, press and release the button.

PUSH BUTTON
HERE

FIGURE 8

- **SAFETY BEACONS**—With the lamp ON, press and hold the push button past the brightness control "blink" to access the safety beacons. This feature cycles circularly (slow-medium-fast-S.O.S.) and will repeat if you continue to hold. Release button at desired beacon. To exit this mode, press and release the button, turning the light OFF.

- **SIGNAL/MORSE CODE**—The light will operate as a push button only light for signaling. To activate this feature, rapidly turn the light ON and OFF until it will not stay on when hold is released (approx. 4 times). To exit this function, press and hold until the light will not stay on (approx. 3 seconds).
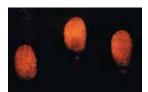
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Secondary Beam 2 LEDs

- **ON/OFF**—Press and hold the push button, turning the light on at its dimmest level. Press and release to turn the unit OFF.

- **BRIGHTNESS CONTROL**—With the lamp OFF, press and hold the push button to brighten the beam's intensity level. Release the button at desired brightness. (There will be a "blink" when the lamp has reached the highest lighting level.) To turn OFF the light, press and release the button.

- **SAFETY BEACONS**—Press and hold the push button past the brightness control "blink" to access the safety beacons. This feature cycles circularly (slow-medium-fast-S.O.S.) and will repeat if you continue to hold. Release the button at desired beacon. To exit this function, press and release the button, turning the light OFF.

- **SIGNAL/MORSE CODE**—(Recommended for the expert user only.) The light will operate as a push button only light for signaling. It is a little tricky activating this feature. Press and hold the push button until the secondary lights barely come on (approx. 1 sec.) and quickly press the button again to turn OFF. Repeat this approximately 4 times. If you were successful in activating this function, the secondary lights will turn ON at maximum brightness when the button is pushed and will not stay on when released. To exit this function, press and hold until the light will not stay on (approx. 3 seconds).
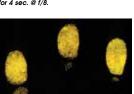
BLUEMAXX™ FORENSIC PHOTOGRAPHY

Not all substances are capable of luminescence. They will not luminesce at all, regardless of the light wavelength used, or may require excitation by specific wavelengths. Fortunately, many substances of primary interest at the crime scene do luminesce when exposed to radiation from a BLUEMAXX™ light source such as the Amalgam. Those substances that are non-luminescent or are weakly luminescent such as blood and palmer oils, may be made luminescent by bonding luminescent agents to them. This latter technique is the basis for use of fluorescent powder and DFO contained in BMA100 Kit. The series of

photographs on the following page are of latent prints developed with the SIRCHIE fluorescent powders contained in your kit and exposed to the BLUEMAXX™ Amalgam Light. The maximum level of brilliance for optimum photographic fingerprint ridge detail may be obtained by varying exposure time. This type of photographic enhancement is not possible with powder-developed fingerprints that have not been externally excited by a forensic light source. ***Note: A standard 35mm camera and Kodak Ektachrome Elite 150 color slide film were used, and exposure times were varied.***

Magnetic REDCHARGE™ LL601 treated prints, excited by Amalgam—exposed for 4 sec. @ f/8.

Magnetic ORANGECHARGE™ LL602 treated prints, excited by Amalgam—exposed for 15 sec. @ f/16.

Magnetic YELLOWCHARGE™ LL605 treated prints, excited by Amalgam—exposed for 8 sec. @ f/4.

REDESCENT™ LL701 treated prints, excited by the Amalgam—exposed for 15 sec. @ f/5.6.

No. BMA100

BMA100 CONTENTS:
- 1- BLUEMAXX™ Amalgam Light w/headband and belt clip
- 1- BMS300 Orange Barrier Filter Goggles w/case
- 1- FAC401 FACII® Brush w/FAC4011 REDESCENT™ Fluorescent Powder
- 1- DFS200P DFO Pump Spray, 100ml
- 1- 125L Standard Magnetic Applicator
- 1- LL601 REDCHARGE™ Magnetic Powder, 1 oz. (30ml)
- 1- LL602 ORANGECHARGE™ Magnetic Powder, 1 oz. (30ml)
- 1- LL605 YELLOWCHARGE™ Magnetic Powder, 1 oz. (30ml)
- 1- 123RWB Red, White & Blue Whopping Marabou Feather Duster
- 3- AA Alkaline Batteries
- 1- Copolymer Carrying Case; Dimensions: 12.125" x 7.25" x 5.5" (30.8cm x 18.4cm x 14cm); Weight: 3 lbs. (1.4kg)

No. BMA200

BMA200 CONTENTS:
- 1- Amalgam Light w/headband and belt clip
- 1- BMS300 Orange Barrier Filter Goggles w/case
- 3- AA Alkaline Batteries
- 1- Molded Carrying Case; Dimensions: 8.5" x 7.825" x 3.1875" (21.6cm x 14cm x 8.1cm); Weight: 1 lb. (.45kg)

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