

- I. INSTRUMENT NAME: Polarizing Light Microscope
- II. SUGGESTED USES: Explosives Analysis, Fiber Analysis, Glass Analysis, Paint Analysis, and Particle Analysis.
- III. OPERATING PROCEDURES:
- A. START-UP AND ALIGNMENT
1. Turn on the power switch.
 2. Adjust to the desired light intensity with the rheostat control on the right side of the microscope base .
 3. Place the slide to be examined on the rotating stage and adjust for "Koehler Illumination" (refer to operators manual for this procedure). This illumination procedure is only performed as needed.
- B. COLLECTION AND STORAGE OF DATA
1. Observations of the material in question can be made with respect to but not limited to the following:
 - * Physical Characteristics
 - color
 - crystal structure
 - internal artifacts
 - diameter
 - cross-sectional shape
 - surface texture
 - texturizing
 - * Optical Properties
 - extinction
 - refractive indices
 - birefringence
 - sign of elongation
 - dispersion staining
 - pleochroism
 - conoscopic images
 - * Chemical Properties
 - reactions to chemical tests
 - solubility tests
 - melting point (done in conjunction with hot stage)
 2. Observations of the materials in question can be recorded by the following means:

- * Descriptive writing
- * Drawing or sketching
- * Polaroid or standard 35mm photography
- * Digital image capture

C. SHUTDOWN

1. Lower the light intensity.
2. Turn off the power switch.

IV. SAFETY CONCERNS

- A. DO NOT SPEND LONG PERIODS OF TIME MAKING OBSERVATIONS AT HIGH LIGHT INTENSITIES.
- B. DO NOT OPERATE THE MICROSCOPE NEAR SINKS OR AREAS WHERE A POTENTIAL ELECTRICAL SHOCK CAN OCCUR.
- C. WHEN CHANGING BULBS, MAKE SURE THAT THE POWER CORD IS DISCONNECTED.

V. OTHER INFORMATION

NONE