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A. Purpose:

In order to ensure that the final work product released by this Section is acceptable for investigative and court use, the equipment and chemicals used must be prepared and tested as listed below.

B. Responsibility:

Forensic Science Examiners

C. Procedure for Chemicals for Image Processing Equipment:

1. Noritsu QSS-3211/3501 RA-4 Printers

01. Equipment

1. Noritsu QSS-3211/3501 RA-4 Printers
2. 10 liter mixing container used only for Developer Mixing
3. Plastic funnel used only for Developer Mixing
4. 5 liter mixing container used only for Bleach-Fix Mixing
5. Plastic funnel used only for Bleach-Fix Mixing
6. 5 liter container used only for water
7. Plastic funnel used only for water

02. Materials and Chemicals

1. Kodak Ektacolor Prime SP Developer Cat# 864 4809
2. Kodak Ektacolor Prime SP Bleach Fix Cat# 127 3812
3. Kodak Ektacolor Prime Stabilizer Cat# 826 4442

03. Mixing Procedure for replacement tanks

01. Kodak Ektacolor Prime SP Developer

1. Fill Noritsu graduated mixing bottle with water to the Developer replenisher line and pour into the developer replenishment tank.

RETIRED

2. Add entire contents of the Developer bottle to the developer replenishment tank.
3. Fill Noritsu graduated mixing bottle with water to the Developer replenisher line and pour into the developer replenishment tank.
4. Mix with the Noritsu stir stick.

02. Kodak Ektacolor Prime SP Bleach Fix for replacement tanks

1. Fill Noritsu graduated mixing bottle with water to the Prime Bleach fix replenisher line and pour half into the bleach fix replenishment tank.
2. Add entire contents of the bleach fix bottle (# 127 3812) to the bleach fix replenishment tank.
3. Pour second half of water into bleach fix tank.
4. Mix with the Noritsu stir stick.

03. Kodak Ektacolor Prime Stabilizer for replacement tanks

1. Fill Noritsu graduated mixing bottle with water to the Stabilizer replenisher line and pour into the stabilizer replenishment tank.

2. Add entire contents of the two Stabilizer bottles (# 826 4442) to the stabilizer replenishment tank.

3. Fill Noritsu graduated mixing bottle with water to the Stabilizer Replenisher line and pour into the stabilizer replenishment tank.
4. Mix with the Noritsu stir stick.

2. Mixing for Main Chemistry Tanks

01. Developer Tank (QSS-3211) 2.0L

1. Add ~~9.9~~10L of Developer Replenisher (# 864 4809) to Main Developer tank.
2. Add ~~3.~~834 5.8L water to Main Developer tank.
3. Add ~~.426~~ 0.8L Developer Starter (#102 6681).
4. Change Chemical Filter.

Developer Tank (QSS-3501) 14L

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1. Add 10L of Developer Replenisher working mixed solution to Main Developer tank.
2. Add 4.06L water to Main Developer tank.
3. Add .56L Developer Starter (#102 6681).
4. Change Chemical Filter.

02. Bleach Fix Tank (QSS-3211) 20.5L

1. Add 10.25L of Bleach Fix Replenisher working mixed solution to main bleach fix tank.
2. Add 10.25L Water to main bleach fix tank.
3. Change chemical filter.

Bleach Fix Tank (QSS-3501) 14L

1. Add 8.35L of Bleach Fix Replenisher working mixed solution) to main bleach fix tank.
2. Add 8.350L Water to main bleach fix tank.
3. Change chemical filter.

03. Stabilizer Tanks

1. Add 9.9L Water to each tank.
.2. Add entire contents of one bottle of Stabilizer Replenisher (#826 4442) to each Stabilizer tank.
3. Change chemical Filter.

3. Safety Notes

01. All containers used in the mixing process will be cleaned and stored after each use.

02. Containers used for mixing each type of chemistry will be used for mixing only that specific type of chemistry.

03. Personnel mixing chemistry for use with this equipment will dispose of empty chemical containers in accordance with DPS Policy and Procedures and in compliance with Chemical handling safety procedures.

4. Hazard Codes (HMIS III Hazard Ratings)

Product	Health	Fire	Reactivity
Kodak Ektacolor Prime SP	2	2	1
Kodak Bleach-Fix Replenisher LORR/RA-4 127-3812	2	1	1
Kodak Ektacolor Prime Stabilizer and Replenisher LORR 826-4442	2	0	0
Kodak Ektacolor Prime SP Developer/Replenisher LORR (concentrate) 864-4809	2	1	0

5. Storage

Photo chemistry will be stored in accordance with DPS Policy and Procedures and in compliance with Chemical storage safety procedures.

6. Shelf Life

The photo chemistry is viable until the expiration date.

7. Disposal

Personnel handling or mixing chemistry for use with this equipment will dispose of empty chemical containers in accordance with DPS Policy and Procedures and in compliance with Chemical handling safety procedures.

8. Clean-Up

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Handle any small spills according to MSDS instructions. If there is a large spill absorb: liquid with spill packs or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. The Supervisor shall inform in the Lab Safety Officer of any large spills.

2. Noritsu QSF- V30 C-41 Processor

01. Equipment

1. Noritsu QSF- V30 C-41 Processor
2. 10 liter mixing container used only for Developer Mixing
3. Plastic funnel used only for Developer filling
4. Plastic funnel used only for Bleach filling
5. Plastic funnel used only for Fixer filling
6. Plastic funnel used only for Stabilizer filling
7. V30 Tank Chemistry Filter
8. 5 liter container used only for water
9. Plastic funnel used only for water

02. Materials and Chemicals

1. Kodak Flexicolor Developer
2. Kodak Flexicolor Bleach Fix
3. Kodak Flexicolor Fixer
4. Kodak Flexicolor Stabilizer

04. Mixing Procedure for Noritsu QSF- V30 C-41 Processor

1. Replenishment Tanks

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1. Kodak Flexicolor Developer

    1. Fill Noritsu Mixing Bottle with water to the Developer Replenisher Line.

    2. Pour Water into the developer replenishment tank.

    3. Add entire contents of developer replenisher (#812 1857) part A, than Part B,
    then Part C to the developer replenishment tank.

    4. Fill Noritsu Mixing Bottle with water to the Developer Replenisher Line.

    5. Poor Water into the developer replenishment tank.

6. Stir with the Noritsu Stir stick.

2. Kodak Flexicolor RA Bleach

    .1 Poor Kodak Bleach Replenisher #825 5549 into the bleach replenishment tank.

    .2 Mix with Noritsu stir stick.

3. Kodak Flexicolor Fixer

    1. Fill Noritsu Mixing Bottle with water to the Fixer Replenisher Line.

    2. Poor Water into the Fixer replenishment tank.

    3. Add entire contents of Fixer replenisher (#821 8950)to the Fixer replenishment
    tank.

    4. Stir with the Noritsu Stir stick.

4. Kodak Flexicolor Final Rinse

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1. Fill Noritsu Mixing Bottle with water to the Stabilizer Replenisher Line.
2. Poor Water into the Stabilizer replenishment tank.
3. Add entire contents of one Final Rinse replenisher bottles(#813 6368) to the Stabilizer replenishment tank.
4. Fill Noritsu Mixing Bottle with water to the Stabilizer Replenisher Line.
5. Poor Water into the Stabilizer replenishment tank.
6. Stir with the Noritsu Stir stick.

2. Mixing Main Tanks

1. Developer
   1. Mix 10L of working solution using developer replenisher (812 1857)
   2. Add 5.799L Developer Replenisher working mixed solution .0228L developer starter Cat. # 848 5153, and 1.573L Water to the developer main tank.
   3. Change chemical filter.
2. Bleach
   1. Add 3.1L Bleach Replenisher (# 825 5549), .372L Bleach Starter Cat. # 856 6796, 1.573L water to the Bleach Main tank.
   2. Change chemical filter.
3. Fix
   1. Mix 10L working solution using fixer replenisher (#8218950)
   2. Add 5.4L Fixer Replenisher working mixed solution to the fixer main tank.
   3. Change chemical filter.

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4. Stabilizer
    1. Mix 10L working solution using fixer replenisher
    2. Add 5.7L Stabilizer Replenisher to the Stabilizer main tank.
    3. Change chemical filter.

5. Operational Procedure

    01. It is the responsibility of employees to report any malfunctioning of this equipment to the Supervisor.

    02. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.

    03. It is the responsibility of section personnel to ensure that the Noritsu QSF-V30 C-41 Processor is working properly and any malfunctions are repaired in a timely manner.

    04. Supplies, Chemistry and filters for use with this processor will be maintained, mixed, and installed in accordance with the processors operational specifications.

    05. Operation of this equipment will be in full compliance and in reference to the Noritsu *QSF- V30 C-41 Processor* Operator Manual.

6. Technical Notes

    01. All containers used in the mixing process will be cleaned and stored after each use.

    02. Containers used for mixing each type of chemistry will be used for mixing only that specific type of chemistry.

    03. Personnel mixing chemistry for use with this equipment will dispose of empty chemical containers in accordance with DPS Policy and Procedures and in compliance with Chemical handling safety procedures.

7. Storage

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Photo chemistry will be stored in accordance with DPS Policy and Procedures and in compliance with Chemical storage safety procedures.

8. Shelf Life

The photo chemistry is viable until the expiration date.

9. Disposal

Personnel handling or mixing chemistry for use with this equipment will dispose of empty chemical containers in accordance with DPS Policy and Procedures and in compliance with Chemical handling safety procedures.

10. Clean-Up

Handle any small spills according to MSDS instructions. If there is a large spill absorb: liquid with spill packs or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. The Supervisor shall inform in the Lab Safety Officer of any large spills.

11. Safety Codes

Product	Health	Fire	Reactivity
Kodak Flexicolor RA Fixer and Replenisher 821-8950	2	1	0
Kodak Flexicolor RA Bleach/Replenisher NR 825-5549	3	1	1
Kodak Flexicolor Final Rinse and Replenisher 813-6368	2	1	0

Kodak Flexicolor Developer/Replenisher LORR, Part A 812-1857	2	0	0
Kodak Flexicolor Developer/Replenisher LORR, Part B 812-1857	2	0	2
Kodak Flexicolor Developer/Replenisher LORR, Part C 812-1857	3	1	1

12. Reference

Noritsu QSF-V30 C-41 Operations Manual

3. Noritsu Negative Cutter

1. Scope

The Multimedia and Image Enhancement Section uses Noritsu Negative Cutter to prepare 35mm film negatives for archival. If there is any question concerning the reliability of an instrument or piece of equipment, a maintenance check should be performed immediately.

2. Safety

None

3. Related Documents

A logbook will be maintained for the quality control of all designated equipment. Full records must be maintained and be readily available for inspection. Documentation must include date maintenance or repair, other relevant observations and employee's signature.

3. Equipment / Materials / Reagents

NORITSU Negative Cutter

4. Standards, Controls, and Calibration

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01. Quality Control Procedures

The Noritsu Negative Cutter should be checked before each use for damage and repair needs, utilizing the operations manual. Maintenance logs must be kept regarding repairs and/or corrective action.

02. Maintenance Procedure

1. If the Noritsu Negative Cutter is not functioning properly the equipment will be trouble shot. If the problem cannot be isolated and repaired, a qualified service technician will repair the instrument. Maintenance logs must be kept regarding repairs and/or corrective action.
2. It is the responsibility of employees to report any malfunctions of this equipment to the Supervisor.
3. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.
4. It is the responsibility of section personnel to ensure that the Noritsu Negative Cutter is working properly and any malfunctions are repaired or replaced in a timely manner

5. Procedure

01. Noritsu Negative Cutter will be operated in accordance with the equipments operational specifications, In compliance with DPS policy and procedures and according to the training received.

02. 35mm negative strip will be inserted into the receiving guide of the Noritsu Negative Cutter.

03. The negative feed lever will be lifted to assist in the negative feeding into the sleeve material.

04. The empty space between frames on the negative will be lined up with the frame interval marker on the Noritsu Negative Cutter.

05. The negative feed assist lever will be actuated DOWN to cut the negative only if the operator can confirm the cut will be made between negative frames.

06. The Noritsu Negative Cutter will automatically advance the negative sleeving material to the next available position.

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07. Repeat

4. Environmental Solution Silver Recovery Unit

1. Scope

The Multimedia and Image Enhancement Section uses Environmental Solution Silver Recovery Unit to prepare photo-processing chemical effluent for release and disposal. If there is any question concerning the reliability of an instrument or piece of equipment, a maintenance check should be performed immediately.

2. Safety

Handle according to the maintenance guide for the unit.

3. Related Documents

A logbook will be maintained for the quality control of all designated equipment. Full records must be maintained and be readily available for inspection. Documentation must include date of calibration, maintenance or repair, other relevant observations and employee's signature.

4. Equipment / Materials / Reagents

Silver Recovery System

5. Standards, Controls and Calibration

01. Quality Control Procedures

The Environmental Solution Silver Recovery Unit shall be checked once every month for damage and repair needs, utilizing the operations manual. Maintenance logs must be kept regarding repairs and/or corrective action.

02. Maintenance Procedure

If the Environmental Solution Silver Recovery Unit is not functioning properly the equipment will be trouble shot. If the problem cannot be isolated and repaired, a qualified service technician will repair the instrument. Appropriate log entries shall be made noting any problems and repairs.

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6. Procedure
    01. It is the responsibility of employees to report any malfunctioning of this equipment to the Supervisor.

    02. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.

    03. It is the responsibility of section personnel to ensure that the Environmental Solution Silver Recovery Unit is working properly and that if malfunctioning, the Environmental Solution Silver Recovery Unit be repaired or replaced in a timely manner.

    04. Supplies for use with this equipment will be maintained and installed in accordance with the equipments operational specifications.

    05. The Environmental Solution Silver Recovery Unit will be operated in accordance with the equipments operational specifications, In accordance with DPS policy and procedures and according to the training received.

    06. Fixer & Bleach effluent from the Noritsu photo processing and Recovery Unit will be dumped into the Environmental Solution Silver Recovery Unit.

    07. The Environmental Solution Silver Recovery Unit will automatically process the effluent and pump the waste into a filter and out into the drain system.

6. Nikon Digital SLR cameras

    1. Scope

        The Multimedia and Image Enhancement Section utilizes Nikon Digital SLR cameras to shoot digital images for DESPP. If there is any question concerning the reliability of an instrument or piece of equipment, a maintenance check should be performed immediately.

    2. Safety

        None

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3. Equipment / Materials / Reagents

Nikon D1X, 100 or D200-Professional or similar digital SLR camera

4. Standards, Controls and Calibration

01. Quality Control Procedures

The digital SLR cameras should be checked before each use for damage and repair needs.

02. Maintenance Procedure

If the cameras are not functioning properly the equipment will be trouble shot. If the problem cannot be isolated and repaired, a qualified service technician will repair the instrument. Maintenance logs must be kept regarding repairs and/or corrective action.

1. It is the responsibility of employees to report any malfunctions of this equipment to the Supervisor.
2. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.
3. It is the responsibility of section personnel to ensure that the cameras are working properly and any malfunctions are repaired in a timely manner.
4. Cleanliness and dirt/dust eradication measures for use with these cameras will be utilized in accordance with the camera operational specifications.

6. Procedure

01. Digital cameras will be operated according to the training received.

02. Digital Images shot with the cameras will be handled and processed in accordance with section and departmental guidelines.

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03. At the end of an assignment where a camera was necessary, the camera should be returned to the section and prepared to ready its for next use.

7. White Lighting/Alien Bees Studio Lights

1. Scope

The Multimedia and Image Enhancement Section utilizes Studio Lights to illuminate subjects and objects for photo shoots in the Studio. If there is any question concerning the reliability of an instrument or piece of equipment, a maintenance check should be performed immediately.

2. Safety

None

3. Related Documents

None

4. Equipment / Materials / Reagents

Studio Lights

5. Standards, Controls and Calibration

01. Quality Control Procedures

The Studio Lights should be checked before each use for damage and repair needs.

02. Maintenance Procedure

1. If the Studio Lights are not functioning properly the equipment will be trouble shot. If the problem cannot be isolated and repaired, a qualified service technician will repair the instrument. Maintenance logs must be kept regarding repairs and/or corrective action.

2. It is the responsibility of employees to report any malfunctions of this equipment to the Supervisor.

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3. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.

4. It is the responsibility of section personnel to ensure that the Studio Lights is working properly and any malfunction are repaired in a timely manner.

03. Procedure

1. Studio Lights will be operated according to the training received.

2. At the end of an assignment where a Studio Lights is necessary, the Studio Lights to be returned to the section and prepared to ready it for next use.

9. Nortisu Densitometer

1. Scope

The Multimedia and Image Enhancement Section utilizes a Nortisu Densitometer to measure photographic control prints. If there is any question concerning the reliability of an instrument or piece of equipment, a maintenance check should be performed immediately.

2. Safety

None

3. Related Documents

A logbook will be maintained for the quality control of all designated equipment. Full records must be maintained and be readily available for inspection. Documentation must include date of calibration, maintenance or repair, other relevant observations and employee's signature.

4. Equipment / Materials / Reagents

Nortisu Densitometer

5. Standards, Controls, and Calibration

01. Quality Control Procedure

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1. The Nortisu Densitometer should be checked before each use for damage and repair needs.

2. Before each use of the Nortisu Densitometer will be calibrated using the calibration plate provided.

3. Yearly, the Densitometer should be sent to be calibrated by X-Rite.

02. Maintenance Procedure

1. If the Nortisu Densitometer is not functioning properly the equipment will be trouble shot. If the problem cannot be isolated and repaired, a qualified service technician will repair the instrument. Maintenance logs must be kept regarding repairs and/or corrective action.

2. It is the responsibility of employees to report any malfunctions of this equipment to the Supervisor.

3. The employee will operate this equipment in accordance with its operational specifications and in compliance with departmental guidelines.

4. It is the responsibility of section personnel to ensure that the Nortisu Densitometer is working properly and malfunctions are repaired in a timely manner.

6. Procedure

01. Nortisu Densitometer will be operated according to the training received.

02. Control prints measured with Nortisu Densitometer will be handled and processed in accordance with section and departmental guidelines.

D. Sources of Error:

E. References: