Biology and Wildlife

STANDARD OPERATING PROCEDURE

Dissections – Non-Preserved Specimens and Specimens Preserved in Carolina's Perfect Solution®

Location(s): Murie 203, 211, 303, 309

Chemical(s): Consult the Safety Data Sheets for your preserved specimens. Specimens ordered through the department are normally preserved in Carolina's Perfect Solution® non-formalin based solutions, and that is what this SOP covers.

NOTE: Specimens preserved in formalin/formaldehyde-containing solutions are NOT covered by this SOP; a separate SOP must be followed for specimens in these solutions. Use of specimens in formalin/formaldehyde requires consultation with the Laboratory Supervisor prior to use to ensure that ventilation will be adequate to prevent exposures in excess of the personal exposure limits (PELs).

NOTE: Non-preserved, non-commercial specimens (e.g. locally trapped animals) are NOT automatically covered by this SOP. An instructor wishing to use such materials must work with local agencies and appropriate UAF personnel to ensure that there are no high-risk potential exposures (e.g. rabies, etc.) from the material to be dissected. If the specimens to be dissected may be contaminated with a high-risk pathogen, an SOP specific to that hazard must be developed and used for the dissection. This SOP may NOT be used in such situations.

Specific Hazards:

- Cuts from dissection tools.
- Sensitivities to preservatives. Carolina's Perfect Solution® has the GHS Classification of Skin Irritation Category 3.
- Possible infectious organisms in non-preserved specimens, if used.
- If specimens preserved in formalin/formaldehyde are used, the SOP for formalin/formaldehyde must be followed. This is strongly discouraged in Biology and Wildlife labs as there are safer preservatives on the market, and exposure monitoring is challenging.

Contact Information:

Laboratory Supervisor:	Patrick Knavel	pdknavel@alaska.edu	474-5622
Laboratory Technician:	Rosa Villarreal	rvvillarreal@alaska.edu	474-7205

1. Purchasing:

Contact the Laboratory Technician for purchasing. Specimens ordered from out-of-state can require weeks to arrive, as they normally require ground shipment. Allow sufficient time.

2. Storage:

Non-preserved specimens:

Non-preserved specimens should be kept frozen or refrigerated to minimize deterioration of the specimens prior to use. After use, used specimens must be handled as described in section 9 of this SOP and placed in the 307 chest freezer pending pick-up for incineration

Preserved specimens:

In the 303 and 309 labs, there are vented storage cabinets in the 307 prep area that should be used to store specimens. Specimens must be securely closed after opening to prevent leaks and spills.
In 211, specimens are stored in a cabinet.
Additional specimens may be stored in 007.

3. Authorized personnel:

- TAs and instructors must have completed all required employee and laboratory safety training.
- Instructors are authorized to train their TAs, but may request that the Laboratory Supervisor provide training. Training should be requested at least two weeks in advance.
- Once trained, TAs are authorized to train students on dissection procedures.

4. Training requirements:

The user must demonstrate competency and familiarity regarding the safe handling and use of these materials prior to using them. Training shall include the following:

- Review of this SOP
- In-person review of procedures
- Sharps training through EHSRM's website.

5. Use location:

- On lab benches, under snorkel hoods where available.

6. Personal protective equipment (PPE):

- gloves
- safety glasses
- dissection aprons

7. Spill equipment:

Non-preserved specimens

- 10% bleach in spray bottles, freshly mixed
- paper towels

Preserved specimens

- paper towels

8. Procedures:

<u>Non-preserved specimens</u>

Materials needed:

- absorbent bench paper or pads
- cutting boards or dissection trays
- dissection tools
- 10% bleach in spray bottles
- biohazard bags in biohazard buckets
- ties to close bags

Procedure notes:

- sharp implements are used for dissection and must be handled with care
- broken scalpel blades should be disposed of as sharps; new blades can be put on the handles

Procedure steps:

1. Instruct students in the use of PPE, handling of sharps, and handling of dissection specimens prior to beginning the lab exercise.
2. Move tables under snorkel hoods if not already positioned there.

<u>Preserved specimens</u>

Materials needed:

- dissection trays
- dissection tools
- plastic bags or buckets large enough to hold specimens
- zip ties for bags

Procedure notes:

- sharp implements are used for dissection and must be handled with care
- broken scalpel blades should be disposed of as sharps; new blades can be put on the handles

Procedure steps:

1. Instruct students in the use of PPE, handling of sharps, and handling of dissection specimens prior to beginning the lab exercise.
2. Move tables under snorkel hoods if not already positioned there.
3. Place dissection trays at each station.

3. Place absorbent bench paper or pads under the cutting board or tray. Paper/pad must be absorbent side up, plastic side down.
4. Place dissection tools at each station.
5. Ensure that the waste container for used specimens is ready and additional bags are on hand.
6. Ensure that a waste container is available to collect liquids and is properly labeled and in secondary containment.
7. Turn on snorkel hood ventilation. In 203 and 211, there are silver toggle switches on the back pillar that turn on the snorkel hoods.
8. Don PPE.
9. Get out specimens.
10. Monitor students throughout the lab to ensure compliance with SOP and well-being.

4. Place dissection tools at each station.
5. Ensure that specimen bags are on hand.
6. Ensure that a waste container is available to collect liquid from the specimens. This must be properly labeled.
7. Turn on snorkel hood ventilation. In 203 and 211, there are silver toggle switches on the back pillar that turn on the snorkel hoods.
8. Don PPE.
9. Get out specimens.
10. Monitor students throughout the lab to ensure compliance with SOP and well-being.

9. Waste disposal and clean-up:

Non-preserved specimens

- Collect used specimens for disposal in biohazard bags. Place closed biohazard bags in clear, heavy-duty bags and close these.
- Label bags with contents, course, instructor name, date of collection and the words “For Disposal.”
- Place bags in the freezer pending pick-up for disposal.
- Clean dissection tools and trays or cutting boards. This may NOT be done at the soil sinks (the sinks with wheeled buckets underneath them) as it contaminates the soil sink trap. To clean: sanitize tools and trays or cutting boards by soaking in 10% bleach for 10 minutes or by spraying thoroughly with 10% bleach and allowing to stand for 10 minutes. Wash with soap and water, then rinse thoroughly.
- Metal implements must be dried with a paper towel rather than allowed to air-dry to prevent rusting.
- Spray work area with 10% bleach and allow to stand, wet, for 10 minutes before wiping up. If bleach begins to dry within the 10 minute period, spray more on the surface so that it remains wet for the full 10 minute period.

Preserved specimens

- Place specimens that will be re-used back in bags or buckets and close securely (bags must have the end folded over; the folded over end must be secured with a zip tie). These should be placed in the appropriate storage location.
- Specimens that will not be reused may be placed in a heavy-duty bucket. They may also be bagged, the bags securely closed, and the bags placed in cardboard boxes. The buckets or boxes must be clearly labeled with the contents, course, instructor name, date of collection and the words “For Disposal.”
- Clean dissection tools and trays by washing with soap and water, then rinsing thoroughly.
- Metal implements must be dried with a paper towel rather than allowed to air-dry to prevent rusting.
- The work area must be cleaned. This can be done by spraying the work area with fresh 10% bleach, then cleaning it with paper towels. There is no need to allow the bleach to stand for 10 minutes as decontamination is not needed.
- Gloves and paper towels should be disposed of in the regular trash.
- Preserved specimens are NOT to be disposed of in biohazard bags or bins, as they are not biohazards and should not be incinerated.

- Collect gloves and any bloody paper towels in a biohazard bag. Paper towels used to wipe up bleach should be placed in regular trash.
- Inform the Laboratory Supervisor that specimens are ready for disposal, where they are, what type of container they are in, and how many containers there are.
- When specimens are ready for disposal, they must be boxed and labeled as described above. Inform the Laboratory Supervisor of the location of the specimens, type of container they are in, and how many containers there are.

10. Decontamination:
None needed for preserved specimens.
For non-preserved specimens, 10% bleach for 10 minutes should be used, as described above.

11. Exposures: Emergency procedures to be followed (from SDS):

Non-preserved specimens

General advice
If exposure to a pathogen or parasite from a specimen is suspected, consult a physician right away.

Eye contact
Flush eyes with water as a precaution. Consult a physician if necessary.

Skin contact
Wash the area thoroughly with soap. Rinse with plenty of water.

Ingestion
Consult a physician. Never give anything by mouth to an unconscious person.

Inhalation
If breathed in, move the person into fresh air. If not breathing, administer artificial respiration and call 911.

Preserved specimens (Carolina's Perfect Solution)

General advice
Consult a physician. Show the safety data sheet to the doctor in attendance. Move out of any dangerous area.

Eye contact
Rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash thoroughly with soap and plenty of water.

Ingestion
If swallowed, do not induce vomiting: seek medical advice immediately and show the doctor the safety data sheet.

Inhalation
Remove the person to fresh air and keep at rest.

If students are cut during the course of the lab, this is a possible exposure route as well. Minor cuts should be immediately washed with soap and water for at least 5 minutes. Students should consult a physician for care following a cut. If a cut is severe, call 911. Follow the directions of the 911 operator. All cuts, including minor ones, and other lab injuries must be reported to the Laboratory Supervisor immediately after lab.

12. Spills

Non-preserved specimens

- Place paper towels over the spill. Saturate the paper towels with 10% bleach solution and allow to stand for 10 minutes.
- Clean up with paper towels; dispose of paper towels in trash.

Preserved specimens

- Clean up spills with paper towels and dispose of paper towels in trash.
- For large spills, contact the Laboratory Technician or Laboratory Supervisor.

13. Phone numbers

Biology and Wildlife Laboratory Supervisor	474-5622
Biology and Wildlife Laboratory Technician	474-7205
EHSRM Hazardous Materials (if B&W Lab Supervisor not available, assistance with a spill)	474-5617
EHSRM Industrial Hygiene (if Hazardous Materials not available; assistance with exposures)	474-6771
EHSRM office (if Hazardous Materials or Industrial Hygiene not available)	474-5413
University of Alaska Fairbanks Emergency Response (serious accidents, fire)	911

14. Other important information

None

Training Record

I, the undersigned, have read and understand the above SOP. I have been trained to carry out this procedure and will follow the above SOP. I agree to contact my Supervisor and the Biology and Wildlife Laboratory Supervisor if I want to modify this procedure and obtain permission for any modifications before implementing them.

Name	Signature	Date	Person Providing Training

Prepared by: Denise Kind **Date:** 5/22/2015
Reviewed by: Tracey Martinson **Date:** 7/24/2015