

North Carolina Suspicious Substance Response Guidelines (SSRG)

For Public Health, Emergency Responders and Law Enforcement

Purpose and Scope

This document contains response guidelines to incidents where the presence or release of suspicious substances, including powders and liquids, presents the threat of human exposure to harmful agents. These guidelines cover the response from the discovery of a suspicious substance to the delivery of samples to the laboratory. It is for use by public health, emergency responders and law enforcement personnel. While these guidelines are directed at biological and chemical substances, suspicious packages should also be considered for explosives and radioactivity.

Discovery of Suspicious Packages or Substances

Individuals who discover suspicious packages, powders or liquids should take the following steps:

- Do not shake or empty the contents of a suspicious package or envelope.
- Do not carry the package or envelope.
- Do not show a suspicious substance or package to others, or allow others to examine them.
- Do not sniff, touch, taste, or look closely at the package or suspicious substance.
- Put the package or envelope on a stable surface.
- Wash hands with soap and water to prevent spreading potentially infectious material to face or skin.
- Alert others in the area about the suspicious package or envelope. Leave the area, close any doors, and take actions to prevent others from entering the area.
- Call 911 and describe the situation.
- Isolate, in a safe area, individuals who may have been exposed until they are cleared to leave by law enforcement, public health, or emergency response personnel.
- Create a list of persons who may have been exposed to the substance.

Threat Assessment

Assess both health risk and criminal threat in a suspicious package or material incident. The assessments can be made simultaneously and jointly by the responders on the scene. Critical decisions and further response activities are based on these initial assessments.

Health and Safety Threat Assessment

Determine if there is a risk to human health and safety. Information about the incident may be gathered as follows:

- Was anyone exposed to the powder by inhaling a “puff” of powder or noticing an odor?
- Is there visible powder or substance on surfaces indicating an aerosolized release?
- Is anyone in the immediate area having symptoms indicating an exposure to a chemical substance? The immediate area can be estimated as 6 to 10 feet indoors. Outdoors, it is difficult to quantify because of air movement, temperature and humidity.
- In some cases it may be necessary to secure the scene, take samples and submit to the SLPH for analysis to rule out a health threat.

Note: The U.S. Centers for Disease Control and Prevention (CDC) and the N.C. Division of Public Health do not recommend the use of handheld assays (HHAs) for the detection of biological agents. If first responders choose to utilize HHAs, the results they provide should not be used as the only means of determining threat credibility.

Criminal Threat Assessment

Law enforcement professionals have primary responsibility for determining the credibility of a criminal threat that may pose a health and/or safety risk to the public because of exposure to a suspicious package or material. Law Enforcement professionals (LE) should make a credibility assessment with the cooperation and participation of the Local Public Health Department (LHD), the appropriate Public Health Preparedness and Response Regional Office, and/or the local or Regional Hazardous Materials Response Team (RRT) as needed. Notification of the Federal Bureau of Investigation (FBI) is required if a credible criminal threat is identified or suspected. If there is uncertainty about threat credibility or a need for consultation, contact the FBI WMD Coordinator at 704-377-9200. Information about the substance may be gathered as follows:

- While maintaining the safety of the personnel, determine the presence or absence of an implied or explicit threat.
- If there is a return address on a package or envelope, try to contact and interview the sender.
- Determine if the explanation for the presence of a powder or suspicious substance leads to the conclusion that the substance is or is not harmless.
- Determine whether the package has any of the “characteristics of suspicious packages” outlined in **Attachment A**.

Post-Assessment Actions

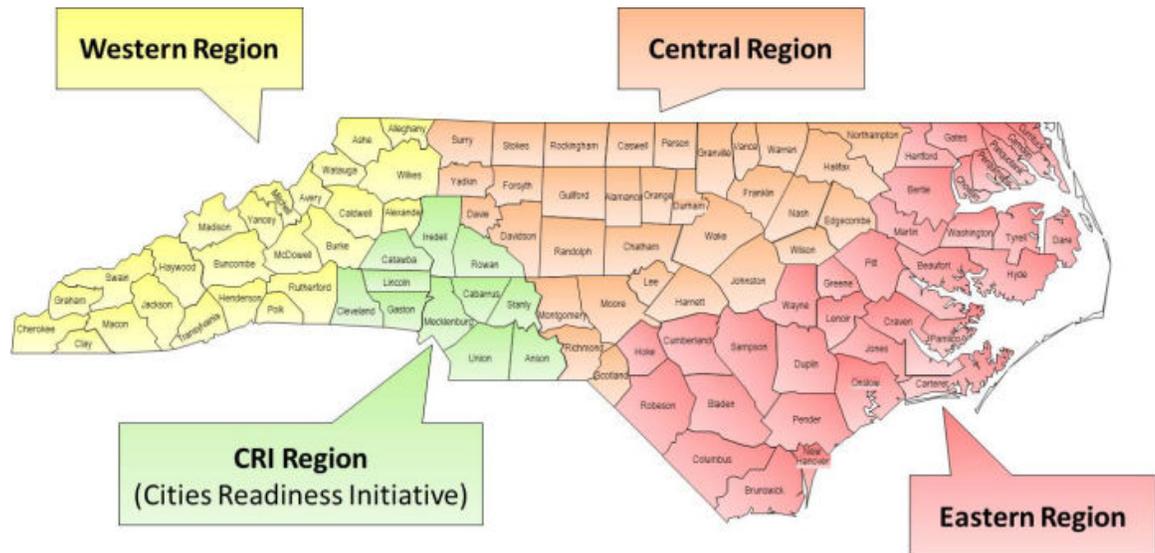
No Criminal and No Health Risk Identified

If it is determined that the substance or package does not present a threat, the following steps should be followed:

- Potentially exposed individuals that have been isolated should be released.

- Provide individuals that may have been exposed to the suspicious substance with 24/7 contact information for the Public Health Preparedness and Response Regional Office (see **Figure 1**) and/or LHD.
- Do not send the sample for laboratory testing.
- No further response is necessary.

Figure 1 – PHP&R Regional Office Contact Information.



- **Central Region Counties:**
 - Alamance, Caswell, Chatham, Davidson, Davie, Durham, Edgecombe, Forsyth, Franklin, Granville, Guilford, Halifax, Harnett, Johnston, Lee, Moore, Montgomery, Nash, Northampton, Orange, Person, Randolph, Richmond, Rockingham, Scotland, Stokes, Surry, Vance, Wake, Warren, Wilson, Yadkin
 - Main No. 919-571-6781
- **CRI Region Counties:**
 - Anson, Cabarrus, Catawba, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly, Union
 - Main No. 704-566-2803
- **Eastern Region Counties:**
 - Beaufort, Bertie, Bladen, Brunswick, Camden, Carteret, Chowan, Columbus, Craven, Cumberland, Currituck, Dare, Duplin, Gates, Greene, Hertford, Hoke, Hyde, Jones, Lenoir, Martin, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Pitt, Robeson, Sampson, Tyrrell, Washington, Wayne
 - Main No. 252-355-9093 ext. 220
- **Western Region Counties:**
 - Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon,

- Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, Wilkes, Yancey
- Main No. 828-250-3826

Credible Criminal Threat and/or Health Risk Identified

If the criminal threat is determined to be credible and/or a health risk is identified proceed with the following response to protect the health and safety of the public and to preserve the possible criminal evidence. Use the matrix below to guide actions.

		Human Health Risk	
		High	Low
Criminal Threat	High	<ul style="list-style-type: none"> Offer prophylaxis Test substance to further guide prophylaxis Treat as crime scene and substance as evidence Refer to "Response" section of guidelines 	<ul style="list-style-type: none"> No prophylaxis recommended Test substance Treat as crime scene and substance as evidence Refer to "Response" section of guidelines
	Low	<ul style="list-style-type: none"> These individuals are acutely ill and need immediate medical attention. Further investigation is undertaken to determine nature of exposure and reassessment of criminal threat. 	<ul style="list-style-type: none"> No prophylaxis No testing of substance

Response

Notification

If not already on scene, the following notification sequence should be followed:

- Initial calls should be made to Public Health and Preparedness (PHP&R) Branch of the N.C. Division of Public Health at 888-820-0520 (on-call number).

- PHP&R will notify the PHP&R Regional Office and any other appropriate state agencies.
- PHP&R Regional Office will notify Local Health Department and any appropriate local agencies.

Exposed Individuals

- Decisions regarding immediate transport of potentially exposed individuals to emergency medical care will be made based on the symptoms or the finding of potential immediately life threatening substances. Consultation with Public Health can assist in these decisions.
- Those with direct hand and face exposure should wash their exposed areas with soap and water as soon as possible if readily available. This action should not contaminate areas or other people. Those with heavier contamination or those who do not have soap and water readily available will require appropriate decontamination. Ensure that exposed individuals remain in the building in an isolated or safe location. If it is not clear who or how to decontaminate, decontamination decisions should be made by public health personnel with cooperation and participation of the hazmat team and others as needed.
- Law enforcement and public health officials should obtain contact information for the list of individuals that may have been exposed to the suspicious substance or powder.
- All incidents involving suspicious substances are unique and should be handled on an individual basis. However, to assist in determining whether or not to provide prophylactic therapy to exposed persons and to submit samples for laboratory testing the previous decision matrix may be helpful.

Note: Consult with a physician for decisions about treatment or prophylaxis of exposed persons and the PHP&R Regional Office staff industrial hygienist for guidance on sampling procedures.

Area Isolation

- Shut down ventilation systems serving the affected areas, if necessary. Keep all windows and doors closed.
- Maintain isolation of areas suspected of being contaminated until a decision is made by public health and law enforcement to release the area. It may not be possible to make the decision to allow re-entry until laboratory results are available (24 to 48 hours).
- Law enforcement personnel should be responsible for ensuring that the affected area remains isolated and guarded until release of the area.

Sample Collection

- Restrict entry into the isolated area for collection of samples to properly trained hazardous materials personnel using appropriate personal protective equipment as specified in OSHA standard 29 CFR 1910.120, Appendix B.

- Screen suspicious substances for volatile organic compounds and ionizing radiation as deemed necessary by on-scene officials.
- Notify the appropriate lab for sample submittal and consultation: State Laboratory of Public Health (SLPH) at 919-807-8600 or (pager) 919-310-4243, the N.C. Department of Agriculture and Consumer Services Lab at 919-270-2544, or the SBI Lab by law enforcement. If it is unclear where to submit the sample, it may be necessary to consult with responders and the laboratory contacts for a decision on sample submittal.
- For sample submission to the SLPH complete DHHS Form 4118: Suspicious Package or Bioterrorism Sample submittal form (**Attachment B**). For sample submission to other labs, consult with lab contact for appropriate lab submittal procedures.
- Collect sample according to sampling instructions outlined in **Attachment C**.

Note: Law enforcement personnel must be consulted about sample collection to ensure that forensic integrity of the site and samples is maintained during the site entry and sampling process.

Sample Transportation

- Samples may be transported to the SLPH by law enforcement (preferred) or public health personnel.
- Chain of Custody must be maintained from sample collection until the sample reaches the lab.
- Either the Public Health chain of custody form (**See Attachment D**) or a Law Enforcement chain of custody form should accompany the samples.

Laboratory Testing

As much information about the event needs to be communicated to the lab so that the appropriate tests are performed and evidentiary procedures are followed. Results will be reported to the individual requesting the tests, PHP&R and the FBI. Follow-up with individuals who may have been exposed will be the responsibility of Public Health. It will be agreed upon when the sample is submitted who will be the person or agency responsible for communicating these results.

Attachment A

Characteristics of Suspicious Packages and Letters

Some characteristics of suspicious packages and letters include the following:

- Excessive postage
- Handwritten or poorly typed addresses
- Incorrect titles
- Title, but no name
- Misspellings of common words
- Oily stains, discolorations or odor
- No return address
- Excessive weight
- Lopsided or uneven envelope
- Protruding wires or aluminum foil
- Excessive security material such as masking tape, string, etc.
- Visual distractions
- Ticking sound
- Marked with restrictive endorsements, such as "Personal" or "Confidential"
- Shows a city or state in the postmark that does not match the return address.

NC Department of Health and Human Services
State Laboratory of Public Health
4312 District Drive • P.O. Box 28047
Raleigh, NC 27611-8047
(919) 807-8765 (Main) (919) 807-8600 (24/7) (919) 310-4243 (Pager)

Suspicious Package or Bioterrorism Sample

FOR LABORATORY USE ONLY

Laboratory Accession Number: _____

SAMPLE INFORMATION

(This Form Must Be Completed For Each Specimen or Sample Submitted)

Incident Report: _____

Contents of Package: _____

Package: Checked for Explosives Yes No
 Checked for Radioactivity Yes No
 Checked for Drugs Yes No
 X-rayed Yes No

LABORATORY FINDINGS WILL BE REPORTED ONLY TO THE SUBMITTING LAW ENFORCEMENT AGENCY

Submitting Agency: _____ Date Collected: _____

Address: _____ Date Submitted: _____

Point of Contact: _____ Telephone: _____

Fax: _____

SAMPLES RELINQUISHED BY:

Printed Name: _____

Signature: _____ Date: _____

Suspicious Substance Sampling Instructions

1. Identify Sampling Strategy

Once samples must be taken, an appropriate sampling strategy must be chosen. Depending on the situation, different types of sampling methods may be utilized. A Bulk Sample (such as an intact envelope) may be the first choice as it is often easiest to obtain and yield a larger amount of product for the lab to work. The following are the types of samples:

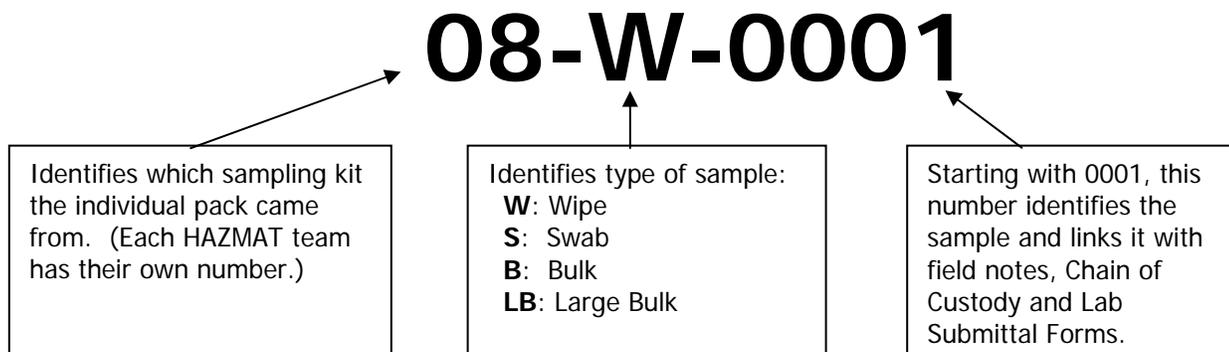
- **Wipe Sample:** Wipe samples may be used in a situation where there is a large amount of unknown material (powder) spread around an open surface such as a table top.
- **Swab Sample:** Swab samples may be used where the unknown material is in a hard to reach location, such as a keyboard or ductwork.
- **Bulk Sample:** Bulk samples, such as an entire envelope or piece of carpet.
- **Large Bulk Sample:** The same sampling technique as the bulk sample, except the large bulk sample pack contains larger packaging.

2. Choose a Sampling Pack

Each Sampling Kit contains individual Sampling Packs for each type of sample listed above. Every sampling pack is identified by a pre-designated, specific **Unique Identifying Number (UIN)**. The UIN will clarify:

- Which RRT the pack belongs to.
- What type of sample it is.
- A numerical 4 digit number which identifies that specific sample.

Below is a sample UIN:



(continued next page)

3. Using the Sampling Packs

Each sample pack will contain the appropriate paperwork and sampling materials to take ONE sample. If multiple samples are needed at one site, use more than one pack. Each pack contains a Chain of Custody form and Lab Submittal form along with the other essential sampling supplies. The sampling pack will have its own Unique Identifying Number (described above) which will be visible on the forms as well as other items which will be transported to the lab. On the following pages, you will find a sampling protocol for each of the types of sample packs.

4. Transport of Finished Samples

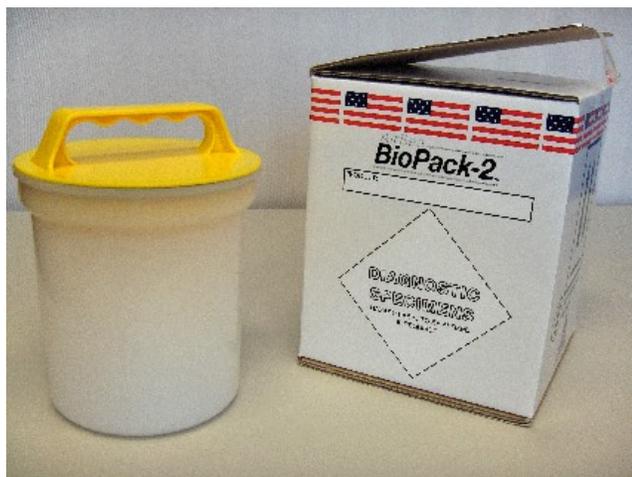
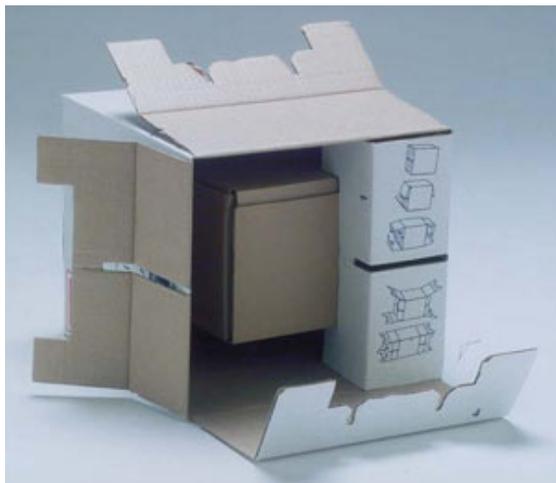
Once samples have been double packaged and properly decontaminated they are ready for transport (with the Chain of Custody and Lab Submittal forms) to the NC State Lab Public Health. Place swab, wipe and smaller bulk samples in a sealable biohazard bag (after decon) and then into an STP 250 box (shown below). Write UIN for sample(s) contained within the STP-250 on the outside of the box. Ice packs should be used when available to refrigerate samples during transport.

*Shipping of large bulk samples which will not fit in the STP 250 box will be handled on an individual basis.



STP-250

Examples of additional types of shipping containers which may be used if available:



Bulk Sample Protocol

Purpose

Bulk samples are collected to detect and characterize the presence of biological contamination on building and environmental materials such as sections of carpet, office equipment, supplies, vials of dust, mail clothing, heating, ventilation and air conditioning (HVAC) filters, etc. or to test powders or liquids that are self-contained (e.g., powder in an envelope).

Equipment and Materials

Bulk sample packs are pre-packaged and include everything necessary to take bulk samples up to the size of an 8.5x11 envelope (if folded) or similar. Every pack is pre-labeled with a unique identifying number and should include:

- 1 copy of the Bulk Sample Protocol
- Primary bag (1 gallon, zip lock, pre-labeled)
- Secondary bag (1 gallon, zip lock, pre-labeled)
- Chain of Custody and Lab Submittal forms (pre-labeled)
- Field marker (to mark site of sample location, if needed)

Procedure

Before entry:

- 1) Remove envelope from sample pack containing Chain of Custody and State Lab Submittal forms. Each form should be pre-labeled to match that particular sample pack. **These forms should remain in the cool zone.**
- 2) Review Downrange procedures (below).

Downrange:

- 1) After entry, remove primary bag from secondary bag.
- 2) Flatten the primary bag to remove excess air BEFORE (not after) placing sample in bag. Place sample into bag.
- 3) Place primary bag into secondary bag using same technique.
- 4) Radio the following information out to the cool zone:
 - Type of sample
 - Time and date of sample
 - Name of person collecting sample
 - Approximate size of area sampled
 - Map and/or description of sample location
- 5) Proceed to designated decontamination area. Decontaminate double bagged sample with .5-.6% sodium hypochlorite solution (see attached instructions for reagent preparation).
- 6) Place decontaminated sample into red biohazard bag and then into STP-250 cardboard box.



Pictures show one bulk sample kit complete with: Sampling Protocol, State Lab and Chain of Custody Forms, Primary and Secondary Zip Lock bags, and field location marker.



Wipe Sample Protocol

Purpose

The wipe sample method is used for sample collection on large (>100cm²), non-porous surfaces such as tabletops, counters, desks, file cabinets, window sills, floors, mailboxes and non-carpeted floors.

Equipment and Materials

Wipe sampling packs are prepackaged and contain everything required to take a wipe sample. Every pack is pre-labeled with a unique identifying number and should include:

- 1 copy of the Wipe Sample Protocol
- 1 zip lock bag, pre-labeled
- Sterile 2x2 Gauze & Saline bottle
- Sterile specimen cup, pre-labeled
- Chain of Custody and Lab Submittal forms (pre-labeled)
- Field marker (to mark site of sample location, if needed)

Procedure

Before entry:

1. Remove envelope from sample pack containing Chain of Custody and State Lab Submittal forms. Each form should be pre-labeled to match that particular sample pack. **These forms should remain in the cool zone.**
2. Review Downrange procedures (below).

Downrange:

1. After entry, remove sampling materials from 1 gallon zip lock bag.
2. Remove 2x2 gauze and squirt entire contents of saline bottle onto gauze.
3. Wipe the surface using the following technique: Recommended wipe area is approximately 1 square foot. Make enough vertical S-strokes to cover the entire sample area. Flip 2x2 gauze over and with the unexposed side of the pad, make horizontal S-strokes over the same area. Avoid letting pad dry completely, however do not add additional saline to remoisten pad.
4. Place sample pad into sterile specimen cup.
5. Place cup into 1 gallon zip lock bag.
6. Radio the following information out to the cool zone:
 - a. Type of sample
 - b. Time and date of sample
 - c. Name of person collecting sample
 - d. Approximate size of area sampled
 - e. Map and/or description of sample location
7. Proceed to designated decontamination area. Decontaminate bagged sample with .5-.6% sodium hypochlorite solution (see attached instructions for reagent preparation).

- Place decontaminated sample into red biohazard bag and then into STP-250 cardboard box.



Pictures show one wipe sample kit complete with: Sampling Protocol, State Lab and Chain of Custody Forms, sterile specimen cup, saline bottle, sterile 2x2, secondary containment (Ziploc bag), and field location marker.



Large Bulk Sample Protocol

Purpose

Large Bulk samples are collected to detect and characterize the presence of biological contamination on much larger samples of building and environmental materials such as sections of carpet, office equipment, supplies, mail personnel clothing, heating, ventilation and air conditioning (HVAC) filters.

Equipment and Materials

Large Bulk sampling packs are prepackaged and contain everything required to take a large bulk sample.. Every pack is pre-labeled with a unique identifying number and should include:

- Copy of instructions
- Two large slide lock containment bags (to be used as inner/outer).
- Chain of Custody and Lab Submittal forms (pre-labeled)
- Field marker (to mark site of sample location, if needed)

Procedure

Before entry:

1. Remove envelope from sample pack containing Chain of Custody and State Lab Submittal forms. Each form should be pre-labeled to match that particular sample pack. The forms should remain in the cool zone.
2. Review Downrange procedures (below).

Downrange:

1. After entry, remove both 28"x28" sampling bags from pack and use one as a primary bag and one as a secondary bag.
2. Place the large bulk sample into the primary bag using one person to hold the bag open. Avoid getting excess air in bag, however- DO NOT squeeze air out of bag once sample is inside (could create aerosol). Place closed primary bag into secondary bag using same method.
3. Radio the following information out to the cool zone:
 - a. Type of sample
 - b. Time and date of sample
 - c. Name of person collecting sample
 - d. Approximate size of area sampled
 - e. Map and/or description of sample location
4. Proceed to designated decontamination area. Decontaminate double bagged sample with .5-.6% sodium hypochlorite solution (see attached instructions for reagent preparation).



Pictures show contents of large bulk sampling pack: Chain of Custody and Lab Submittal forms and two 28"x28" (Inner & Outer) slide lock bags.



Swab Sample Protocol

Purpose

The swab method is used for sample collection of small volumes of powders or liquids on smaller, non-porous surfaces that do not have a large accumulation of dust and dirt such as keyboards, hard to reach areas within machinery, mail sorters, and ventilation grilles.

Equipment and Materials

Swab sampling packs are prepackaged and contain everything required to take a swab sample. Every pack is pre-labeled with a Unique Identifying Number and should include:

- 1 copy of the Swab Sample Protocol
- 1 zip lock bag, pre-labeled
- Sterile dacron swab, pre-labeled
- Sterile buffered saline bottle
- Chain of Custody and Lab Submittal forms (pre-labeled)
- Pre-Labeled Field Marker (to mark site of sample location, if needed)

Procedure

Before entry:

1. Remove envelope from sample pack containing Chain of Custody and State Lab Submittal forms. Each form should be pre-labeled to match that particular sample pack. **These forms should remain in the cool zone.**
2. Review Downrange procedures (below).

Downrange:

1. After entry, remove sampling materials from zip lock bag.
2. Remove swab from container and moisten with sterile saline (3-5 drops). (Discard extra swab if not needed.)
3. Wipe the surface using the following technique: Recommended wipe area is less than 100cm². Swab target surface using sequential vertical, horizontal, and diagonal strokes while rotating the swab to ensure the entire surface of the swab was used. Avoid letting swab dry completely, however do not add additional saline to remoisten.
4. Place swab back into container and cap.
5. Place swab/container into 1 gallon zip lock bag.
6. Radio the following information out to the cool zone:
 - a. Time and date of sample
 - b. Name of person collecting sample
 - c. Approximate size of area sampled
 - d. Map and/or description of sample location

7. Proceed to designated decontamination area. Decontaminate bagged sample with .5-.6% sodium hypochlorite solution (see attached instructions for reagent preparation).
8. Place decontaminated sample into red biohazard bag and then into STP-250 cardboard box.



Pictures show one swab sample kit complete with: Sampling Protocol, State Lab and Chain of Custody Forms, sterile swab, saline bottle, secondary containment (Ziploc) bag, and field location marker.



**Chain of Custody- Bioterrorism Unit
 NC State Laboratory of Public Health
 24/7 Phone (919) 807-8600**

Sample Number:

Relinquishing Investigator:	Date Submitted:
Signature:	Phone Number:
Agency:	
24-hour contact name:	24-hour contact phone:
Fax Number:	

PHYSICAL DESCRIPTION OF ITEM(S):
Total # of items submitted:

Received By: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Custodial Agent: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Action: _____

Received By: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Custodial Agent: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Action: _____

Received By: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Custodial Agent: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Action: _____

Received By: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Custodial Agent: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)

Action: _____

Received By: _____ **Date:** _____ **Time:** _____
 (Printed Name) (Signature)