North Carolina Suspicious Substance Response Guidelines (SSRG)

For Public Health, Emergency Responders, and Law Enforcement

PROMULGATION DOCUMENT

To All Recipients:

Provided herewith is the revised Suspicious Substance Response Guidelines (SSRG) from the North Carolina Public Health Preparedness and Response Branch (NC PHPR), of NC Division of Public Health (NC DPH), under NC Department of Health and Human Services (NC DHHS).

These Guidelines are provided for Public Health, Emergency Responder and Law Enforcement personnel that may be called into response for the incident. The Guidelines will provide response actions where the presence or release of suspicious substances, including powders and liquids, present the threat of human exposure to harmful agents.

The Suspicious Substance Response Guidelines provide:

1. Threat Assessment Actions
2. Post Assessment Actions
3. Response Actions

The NC Preparedness and Response (NC PHPR) is responsible for the development and maintenance of this Suspicious Substance Response Guide. This plan is in accordance with all existing Federal State and Local statutes. It will be tested, exercised, revised and updated as required. All recipients are requested to advise NC PHPR regarding recommendations for improvement.

This Guidance has been reviewed and is hereby approved.

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Name of Executor Date:

Title of Executor

NC Division of Public Health

NC Department of Health and Human Services

APPROVAL AND IMPLEMENTATION

The North Carolina Suspicious Substance Response Guidelines (SSRG) provide Public Health, Emergency Response and Law Enforcement personnel response guidelines in the event the presence or release of Suspicious Substances present the threat of human exposure to harmful agents.

These Guidelines describe the response actions needed after discovery is made of a suspicious substance through delivery to the laboratory. These Guidelines are directed at suspected Biological and Chemical Substances.

- North Carolina differentiates between a Suspicious Package and a Suspicious Package with a Substance Associated, as to which agencies respond would be dependent upon this criterion. In relation to this document, only Suspicious Packages with Suspicious Substances Associated and are Suspected of Containing Biological and/or Chemical Substances are discussed.
- To delineate between events and incidents language, for the purposes of this document, all unplanned happenings are identified as incidents.
- Local and State assistance is available through Mutual Aid Agreements, Memoranda of Understanding and the Emergency Management Assistance Compact (EMAC).
- Federal assistance is available under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, as well as individual agency authorities to save lives and protect public health.

These Guidelines were developed with guidance and in accordance with:

- American Society for Testing Materials (ASTM) E2270-14 and E2458-17
- Joint Coordinated Document with FBI, CDC and DHS, dated November 2, 2004 entitled: Guidance on Initial Responses to a Suspicious Letter/Container with a Potential Biological Threat
- Association of Public Health Laboratories Model Practice: Algorithm and Guidelines for Responding to an Incident Involving a Suspicious Non-Clinical Sample.

Note: See Authorities and References section of this document for web address links.

RECORD OF CHANGES

Change Number	Date Changed	Name of Person Making Change	Position of Person Making the Change	Comments
VERSION 1	2003	Julie Casani, Brian Combs		Creation of Guidelines
VERSION 2	2007	Julie Casani, Brian Combs		Update
VERSION 3	2012	Julie Casani, Brian Combs		Update
VERSION 4	2017	Julie Casani, Brian Combs, Diana Blackburn		Amending text and adding appendices
VERSION 5	1.31.18	Valerie Lott, Diana Blackburn		Replaced Lab Form 4118 with updated version
VERSION6	12.2.19	Ariel Christensen, Justin Graney, Kate Koehler, Rick Langley, Valerie Lott, Matthew Perkins, Susie Orton	OEE, RRT, NCSLPH, OEE, PHPR. FBI, NCSLPH	Update

RECORD OF DISTRIBUTION

Title and Name of Person Receiving Plan	Agency of Person Receiving Plan	Date of Delivery	Number of Copies Delivered

NORTH CAROLINA SUSPICIOUS SUBSTANCE RESPONSE GUIDELINES

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PURPOSE AND SCOPE

This document provides guidance for the response to an incident involving a potential biological threat as recommended and outlined in:

ASTM E 2770-14 Operational Guidelines for Initial Response to a Suspected Bio Threat Agent.

Emergency responders (for example, HAZMAT response teams) work with Local and Federal Law Enforcement and Public Health officials to determine if a credible Biological and/or Chemical incident exists. The determination of a credible Biological/Chemical threat is made through consultation with NC Public Health and the FBI Weapons of Mass Destruction (WMD) Coordinator.

Responders should involve, inform, consult, and defer to local authorities and the FBI in all cases where a credible biological threat is encountered.

This document contains response guidelines for incidents where the presence or release of suspicious substances, including powders and liquids, presents the threat of human exposure to 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 substances, suspicious packages should also be considered for explosives and radioactivity and should be screened for these prior to transport.

This guide supports and should be utilized as an accompaniment to Practices ASTM E2458. Utilization of a standard sample collection method and standard guidance insures reduced exposure risk, minimizes on-site sample consumption for preservation of public health samples and forensic samples, reduces variability associated with sample handling and analysis and increases the reliability of the sampling procedure when collecting a sample of suspect biological threat materials.

DISCOVERY OF PACKAGES WITH SUSPICIOUS SUBSTANCES

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

- Do Not Move, Carry, Shake, Open, or Empty the Contents of a Suspicious 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 Individuals, Within the Immediate Vicinity, Isolate and Restrict Access to the Incident Location (Close Doors or Windows)
- Call 911 and Describe the Situation.
- Isolate Potentially Exposed Individuals Until Cleared to Leave by Law Enforcement, Public Health or Emergency Response Authorities.
- Create and Maintain, A List of Potentially Exposed Individuals.

THREAT ASSESSMENT

The Threat Assessment informs critical decisions and enables further response activities. The Threat Assessment consists of three separate assessments:

1. RISK ASSESMENT
2. HEALTH AND SAFETY THREAT ASSESSMENT (Determined By: SLPH, PH, LHD, FBI)
3. CRIMINAL THREAT ASSESSMENT

These assessments are conducted simultaneously and jointly by responders on scene, to assess the Incident Risk, identify Public Health and Safety Hazards and determine the Criminal Threat of the incident.

RISK ASSESSMENT

Once on-scene, emergency responders should begin a risk assessment, which includes a hazard and threat assessment as well as a criminal threat assessment. If the assessment indicates the potential for a biological/chemical and / or criminal threat exists, responders should immediately notify local law enforcement, the FBI and the receiving State Laboratory of Public Health (SLPH).

A risk assessment provides an indication of the probability of suffering harm or loss. Risks cannot be eliminated but can be managed. Factors that influence the level of risk include the nature of the hazardous material, level

of the threat, quantity of the material, if the material is enclosed in a container, the containment system and type of stress applied to that system, proximity of exposures, and level of available resources.

Risk assessment is an ongoing activity. Risk assessment activities should include initiating coordination with law enforcement so that law enforcement can begin conducting a threat assessment to evaluate if a credible threat exists. Changes in the environment and intelligence information may result in a reevaluation of priorities; the risk assessment should be reevaluated appropriately.

In the event of multiple hazards, the results of a risk assessment can be used to establish priorities so that the most dangerous situations are addressed first and those less likely to cause major problems can be considered later. The outcome of a risk assessment can be used to request and assign resources.

National Fire Protection Association (NFPA) 1600 provides guidance on performing a risk assessment; Annex A.5.3 of NFPA 1600 provides steps for a comprehensive risk assessment.

The following steps should be initiated in performing an initial risk assessment:

- Identify All Potential Safety and Health Hazards, Threats or Perils to The Responding Organization, The Infrastructure and The Surrounding Area.
- Standard Field Screening or Testing (Dependent of Sample Present) Can Be Conducted on An Unopened or Already Compromised Package. Point of Clarification: Packages Should Only Be Opened for Field Screening or Testing IF There Are Symptomatic Patients and Appropriate Medical Intervention Needs to Be Determined.
- Determine the Potential Impact of Each Hazard, Threat or Peril.
- Determine Whether the Probability Is High, Low, Or No Apparent Risk That the Source Will Actually Cause Harm.
- Estimate the Severity, Relative Frequency and Vulnerability to The Hazard, Threat, or Peril.
- Determine Whether the Seriousness of a Risk to Life, Property, And the Environment of Such A Hazard Would Be High, Low, or No Apparent Risk.

A risk assessment may also include both a “what-if” analysis to identify specific hazards and hazardous situations and a checklist of known hazards. “What-if” questions should include an evaluation of what could go wrong if hazardous consequences are identified.

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?
- Was Anyone Exposed to The Liquid by Coming in Direct Contact with It?
- Is There Visible Powder or Substance on Surfaces Indicating an Aerosolized Release?

- Is There Visible Liquid on Surfaces?

- Are any Individuals in The Immediate Area Symptomatic, Indicating an Acute Exposure to A Chemical Substance? The Immediate Area Can Be Estimated As 6- 10 Feet Indoors. Outdoors, It Is Difficult to Quantify Because Of Air Movement, Temperature and Humidity.

- It May Be Necessary to Secure the Scene, Take Samples to Submit to The SLPH For Analysis, to Rule Out A Public 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 HHA's Are Utilized the Results Shall Not Be Used as The Only Means of Determining Threat Credibility.

The physical and chemical properties of a Substance provide insight into the nature of the hazard. These properties may be determined in the field through measurements known as Field Assessments and Screening.

All field screening and on-site biological assessment capabilities, known as Field Tests, should be communicated well before an incident to the receiving Laboratory Response Network (LRN) reference laboratory and Local and Federal Law Enforcement including the FBI Field Office Weapons of Mass Destruction Coordinator or other representative agencies that contribute to response planning activities.

If there is indication of Low or High Risk Potential, personnel (HAZMAT teams, Law Enforcement, Federal, State or Local Agencies) conducting the Risk Assessment may determine Field Assessment or Screening is warranted. Field Assessments and Screening consists of examining a Substance or object for the presence of Explosives, Radiological, Corrosive and Volatile Organic Hazards by the HAZMAT response team, as is defined in the coordinated **FBI-DHS-HHS/ CDC Guidelines:** Response to Suspicious Letters and Packages.

NOTE: Field testing of Fentanyl or its analogues is not recommended due to an increased risk of exposure to responders performing field testing. However, if detection and identification of fentanyl is critical to the incident response, develop an incident specific plan to perform the field testing in accordance with agency policies and procedures. Never handle fentanyl or its analogues without the appropriate PPE; see Fact Sheet (Appendix F) for additional guidance.

Methods of analysis that minimize sample consumption should be used when performing A Field Assessment or Screening on suspicious substances, conserving as much of the sample as possible for laboratory confirmation and law enforcement evidence collection. Field Screening and Assessment is different from the initial visual and physical assessment of a package for indications of Explosive Materials and acute Chemical Hazards.

In the case of response to a possible biological threat, field screenings of the physical and chemical properties of the contaminant aid in the risk assessment and help to protect the responders, the public, and the receiving LRN reference laboratory.

Currently, the only definitive tests for identifying biological threat agents are those performed by the SLPH which is an LRN reference laboratory for the state of NC; confirmatory testing by the SLPH is necessary to make public health decisions.

Jurisdictions choosing to integrate on-site field test into response procedures should do so in accordance with **ASTM Practices E2458, methods A & B**, which provides a method for use of the residual powder when the primary source and bulk powder sample have been collected and packaged for transport to the SLPH.

Jurisdictions choosing to integrate on-site field test into response procedures should ensure that personnel and test methods are supported by training and proficiency testing programs defined in section 8 of **ASTM**

E2270-14. It is recommended that Field Assessment methods comply with Nationally Recognized Consensus Standards: i.e. Stakeholders' Panel on Agent Detecting Assays performance specifications and are supported as defined in: **ASTM E2270-14.**

All Field Screening and Assessment results, to include On-Site Field Tests (if conducted), should be documented and made available to the receiving SLPH and to responding local and federal law enforcement. Documentation should be included in the sample package or sent directly to the receiving laboratory via fax or e-mail. Alternatively, On-Site Field Screening/Assessments and Field Test results may be communicated by telephone to the SLPH Staff and appropriate written documentation submitted at time of sample submission. Equipment Make, Model, and Serial Number should be included as well.

Field Screening/Assessment and On-Site Field Testing should be conducted downrange in the Hot Zone with basic detection and monitoring equipment, to reduce the risk of spreading contamination.

Samples collected for purposes of Field Screening/Assessments and On-Site Field Test should not be opened beyond the decontamination line.

Responders should consider the potential of Re-Suspension, Aerosolization and/or Cross Contamination of equipment and material.

Additional provisions recommended for a field screening location are:

- Protected from Wind and Weather.
- Adequate Lighting.
- Adequate Space for Equipment.
- Containment from Sample Release.
- Negative Pressure with HEPA And Activated Charcoal (Or Appropriate NIOSH-Certified CBRN) Filtration.
- Decontamination and Temporary Storage of Hazardous Waste.

An alternative would be utilization of a deployable shelter or purpose-built vehicle or trailer with negative pressure HEPA and activated charcoal filtered glove box. All Hazards Receipt Facility Screening Protocol provides requirements for a field screening facility capability.

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 **704-672-6100**. 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, Attempt 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 Meets "The Characteristics of Suspicious Packages And Letters" (Appendix A)

Responders who are first on the scene who are not Law Enforcement officers should follow the threat assessment procedures below to determine if a credible threat exists and then request law enforcement assistance as described below.

A critical aspect of assessing the risk of a given situation includes an evaluation of the threat. A threat evaluation assesses indicators of possible violence, harm, or danger and may include an indication of intent and capability. A threat evaluation may be initially performed by state or local authorities or by the Incident Commander at the scene.

If the result of the threat evaluation concludes that there may be reasonable belief that a potential WMD crime has occurred, an FBI-led Threat Credibility Evaluation must be conducted on-scene.

Whether a credible threat exists is determined by evaluating all available information on scene including law enforcement interviews, intelligence information, hazard evaluation results, and communication with public health and the receiving State Public Health Laboratory.

An FBI Threat Credibility Evaluation is coordinated by the local FBI Field Office Weapons of Mass Destruction Coordinator via a conference call with FBI Headquarter elements (Weapons of Mass Destruction Directorate and the Laboratory Division) and on-scene personnel.

Once it's determined that a credible threat exists, a course of action should be initiated to collect any evidence and bring it safely to the SLPH and, in certain circumstances, partner laboratories as specified by the FBI. All credible samples are immediately sent to the SLPH for confirmatory testing.

A threat evaluation performed on-scene may be used to support an FBI led credibility threat assessment. To assist in performing a threat evaluation, the following guidance is provided:

Reference the Homeland Security Threat Advisory System, which is in use at the federal, region, tribe, territory, and state levels. The Homeland Security threat advisories combine threat information with vulnerability assessments and provide communications to public safety officers.

The following are suggested indicators that increase suspicion and add to the credibility of the threat:

- An Articulated Threat, Written or Verbal.
- Dissemination Device or Mechanism of Dispersal.
- Profile of the Recipient or Target, or Both.
- Political Affiliations.
- Social Indictors Which May Include Schools, Churches, Health Care Providers.

- Public Media.
- Known Item or Watchlist.
- Incident Indicated by Public Safety/Health Channels.
- Confirmation of Biological or Chemical Threat Agent
- Reports of Human Illness

Responders may take into consideration guidance from the FBI, CDC, and US Postal Service in the FBI-DHSHHS/ CDC Coordinated Document as well as the guidance from IAFC to identify indicators of a biological threat incident. This guidance describes the characteristics of a "suspicious" package as follows (note that these are not recommendations that apply specifically to the assessment of potential biological/chemical Threats):

- Excessive Weight.
- Lopsided or Uneven.
- Protruding Wires or Aluminum Foil.
- Excessive Security Material Such as Masking Tape, String, Etc.
- Visual Distractions.
- Unusual Sounds.
- Sealing of Seams with Tape.
- Physical Touch of The Package Suggests That A Powder Might Be Present.
- Powder or Liquid Spilling from Package.

Along with these factors, it is recognized that emergency response personnel should use their judgment and experience to determine if there are additional factors at the scene that would cause them to upgrade the threat.

It should be noted that hoaxes (for example, letters that contain a threat about a dangerous substance with or without visible substance present) will be considered credible threats because these cases may be prosecuted under the Hoax statutes (18 USC 1038); even if later the substance is determined to have posed no hazard.

POST ASSESSMENT ACTIONS

Following the thorough assessment of the incident either, No Criminal and no Health Risk will be Identified or a Credible Criminal Threat and/or A Health Risk Is Identified.

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 and/or LHD.
- Do Not Send the Sample for Laboratory Testing (Do Not Use Razor EX Detector If No Threat. If Positive Result Is Indicated When Used, The Sample Must Be Sent to the SLPH)
- Contact PHPR On Call Duty Officer (888-820-0520)
- No Further Response Is Necessary.

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 response to protect the public health and to preserve possible criminal evidence. Use the matrix below to guide actions.

Criminal Threat Level	Human Health Risk Level	
	HIGH	**LOW**
HIGH	• Offer Prophylaxis/Treatment • Test Substance to Further Guide Prophylaxis • Treat as Crime Scene and Substance as Evidence • Refer to Response Paragraph • These Individuals May Be Acutely Ill and Need Immediate Medical Attention	• No Prophylaxis/ Treatment Recommended • Test the Substance • Treat as Crime Scene • Treat Substance as Evidence • Refer to Response Paragraph
LOW	• Individuals Present as Acutely Ill and Need Immediate Medical Attention • Further Investigation is Undertaken to Determine Nature of Exposure and Reassessment of Criminal Threat • Offer Prophylaxis/Treatment	• No Prophylaxis/Treatment Recommended • No Testing of Substance

INCIDENT RESPONSE

NOTIFICATION

If not already on scene, notification should be made to the following agencies according to local notification procedures:

- Public Health and Preparedness (PHP&R) Branch of the N.C. Division of Public Health (888-820- 0520) if they have not been notified. The PHP&R Regional Office will notify the local health director or designee
- North Carolina Emergency Management (919-733-3300)
- Local EmergencyManagement
- N.C. State Bureau of Investigation (919-662-4500)
- Federal Bureau of Investigation (WMD Coordinator at 704-672-6100)
- HazardousMaterialsTeam (HAZMAT) through Local Emergency Management

EXPOSED INDIVIDUALS

The State Laboratory of Public Health (SLPH) should be provided with contact information for on-scene personnel including the following:

(1) Emergency Responders.
(2) Submitting party.
(3) Site operator or property/facility owner.

Note: Consult with a physician for decisions about treatment or prophylaxis of exposed persons and the PHP&R Industrial Hygienist for guidance on Decontamination and Sampling Procedures.

- 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. Note: See Appendix F additional guidance for managing occupational exposures to Fentanyl and analogues.

- 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 to provide prophylactic therapy to exposed persons and to submit samples for laboratory testing the previous decision matrix may be helpful.

INCIDENT SCENE AND SAMPLE PROCESSING

If a credible threat is identified or strongly suspected responders should follow the procedure below for processing and management of the incident scene.

Responders should immediately contact the FBI WMD Coordinator and make the required notifications as noted above. The SLPH will coordinate testing with the responding unit and the submitting party.

The Hazardous Materials Team Leader should ensure that processing of the scene is conducted according to the FBI 12-Step Crime Scene and Sample Collection Process as noted in Appendix D.

At a minimum the following must be actions must be performed:

- Emergency Responders Collect and Package the Samples for Transport to The LRN Reference Laboratory as Described in Method "A" of ASTM Practices E2458.
- Expedited Delivery of Sample to The Receiving SLPH And of The Need for Immediate Initiation of Confirmatory Testing Procedures.
- Senior Public Safety Officials Must Be Briefed.
- Senior Public Safety Officials with Statutory Public Safety Authority May Isolate Property and Conduct Other Short-Term Tactical Operations Pending Confirmatory Analysis by The Laboratory as Deemed Necessary, If Sufficient Hazards or Threat Credibility Indicators Are Present.
- Typically, Short-Term Action Taken Under Local Public Safety Authority Is to Restrict Access to The Affected Area. This Decision Is Made Based on The Risk Assessment.
- Decontamination of Potentially Exposed People Has Rarely Been Recommended.
- Public Health Authorities May Make Any Decision for Public Health Protective Actions Based on The Analysis and Threat Assessment.

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 (24-48 Hours).
- Law Enforcement Personnel Should Be Responsible for Ensuring That the Affected Area Remains Isolated and Guarded Until Release of The Area.

SAMPLE COLLECTION

If, through the risk assessment, a threat evaluation and communication with the response agencies including the SLPH and it is determined that a sample should be collected, the bulk of the sample should be collected from the surface if possible. A method for collection from nonporous surfaces is described in method A of Practices E2458 and immediately be transported to the SLPH.

If the sample is on a porous or carpeted surface, it is recommended the responding personnel coordinate with the FBI and receiving laboratory (SLPH) to determine the best method to collect the sample.

Prior to implementing a sample collection method, responders should:

- Develop A Written Sampling Plan and Site Safety Plan Under the Direction of The Incident Commander.
- Determine and Define A Sampling Site/Hot Zone.
- Implement Proper Site Safety Practices, Including Establishing Decontamination Areas and Selecting Appropriate PPE Based on A Risk Assessment.
- If Possible, Prior To Disturbing the Scene and Any Associated Material/Packaging, Digital Photographs or Videos of The Scene, Including the Material And /or Packaging, or Both, Should Be Taken and Documented. A Photo Log Should Be Maintained as Part of The Case File.

Photographs should include the following:

- Entry / Exit Photos
- Long, Medium and Close-Up Photos (Include A Ruler or Object of Known Scale in Close-Ups)
- In Addition, A Site Diagram or Sketch of The Scene Showing the Relative Location(S) Of All Visible Suspicious Substance(S)
- 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.

NOTE: At minimum, a two-person team is required to perform sampling procedures in the Hot Zone.

- Standardized Documentation Developed by The Hazardous Materials Response Teams, The SLPH, and the FBI Should be Completed by the Responder Upon Submission of Samples to the Receiving Laboratory (See Example Forms in The Appendixes). Documentation Should Include:
- Sample Submission Forms (Appendix B)
- 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 (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. For Sample Submission to Other Labs, Consult with Lab Contact for Appropriate Lab Submittal Procedures.

- Collect Sample According to Sampling Instructions (Appendix 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 **Shall** be transported to the SLPH by one of the following law enforcement agencies.
  - Local Law Enforcement
  - SBI
  - WMD FBI
  - State Highway Patrol
    (if needed call 919-319-1523 and ask for the hazardous materials section)

- 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 incident 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. All suspicious substance testing will be screened for biologicals first prior to chemical threats.

ADMINISTRATION, FINANCE AND LOGISTICS

Local logistics/administration/finances will be managed at the local or county level. The Local Health Director will coordinate with local emergency management for requests of additional resources. State agencies will use their existing logistics channels and then will make requests to State Emergency Management for additional resources, if needed.

PLAN DEVELOPMENTAND MAINTENANCE

To be reviewed biannually or as needed.

This model plan was developed in accordance with the Comprehensive Preparedness Guide (CPG) 101 Developing and Maintaining Emergency Operations Plan, Version 2.0 (November 2010) that was issued by the US Department of Homeland Security's Federal Emergency Management Agency (FEMA) at http://www.fema.gov/pdf/about/divisions/npd/CPG_101_V2.pdf.

AUTHORITIES AND REFERENCES

1. The American Society for Testing Materials [ASTM] International Standard Guide for Operational Guidelines for Initial Response to a Suspected Bio Threat Agent; Designation: E2270-14; Current Edition published September2014.

Link: https://www.astm.org/Standards/E2770.htm.

2. The American Society for Testing Materials [ASTM] International Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders Suspected of Being Biological Agents from Nonporous Surfaces; Designation: ASTM E2458.

Link: https://www.astm.org/Standards/E2458.htm.

3. An FBI, DHS, HHS/CDC Coordinated Unclassified Document dated November 2, 2004, entitled: Guidance on Initial Responses to a Suspicious Letter/Container with a Potential Biological Threat. -

Link: https://emergency.cdc.gov/planning/pdf/suspicious-package-biothreat.pdf.

4. ASTM E 2770-17 Operational Guidelines for Initial Response to a Suspected Bio Threat Agent

5. NFPA 1600 provides guidance on performing a risk assessment; Annex A.5.3 of NFPA 1600 provides steps for a comprehensive risk assessment.

6. Practices E2458, methods A & B, which provides a method for use of the residual powder when the primary source and bulk powder sample have been collected and packaged for transport to the SLPH.

7. Personnel and test methods are supported by training and proficiency testing programs defined in sections and 8 of ASTM E2270-17. It is recommended that assessment methods have been validated by nationally recognized consensus standards (for example, Stakeholders' Panel on Agent Detecting Assays

performance specifications) and supported as defined in ASTM E2270-17.

8. DHHS Form 4118: Suspicious Package or Bioterrorism Sample submittal form

9. Association of Public Health Laboratories Model Practice: Algorithm and Guidelines for Responding to an Incident Involving a Suspicious Non-Clinical Sample

Link: https://www.aphl.org/aboutAPHL/publications/Documents/PHPR-2018-Mar-Algorithim-White- Paper-Update.pdf

APPENDICIES

APPENDIX A: CHARACTERISTICS OF SUSPICIOUS PACKAGES AND LETTERS

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.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH
NORTH CAROLINA STATE LABORATORY OF PUBLIC HEALTH
4312 DISTRICT DRIVE
RALEIGH, NC 27607
24/7 Emergency Phone: (919)-807-8600

SUSPICIOUS SUBSTANCE/PACKAGE SUBMISSION FORM

SUBMITTER DATA

Please fill in all data in appropriate boxes

Submitter Facility/ Name:		Date Submitted:
Address:		
City/County:	State:	Zip Code:
Phone No.:	Fax No.:	E-mail:
24-hour contact name (for emergency) Name:	24-hour phone number (for emergency) Phone:	

ENVIRONMENTAL SAMPLE SCREEN INFORMATION

Sample screened for explosives (required)	Sample screened for radioactivity (required)	Sample screened for VOCs (required)	Sample screened for drugs (optional)	Sample X-rayed (if applicable)
☐yes ☐no	☐yes ☐no	☐yes ☐no	☐yes ☐no	☐yes ☐no

SAMPLE DISPOSITION

Laboratory Sample Number(s):
Submitter requests sample disposal by NCSLPH: ☐yes ☐no

SAMPLE DESCRIPTION

Incident report:
Contents of Package:

Total Number of Containers/Samples: _____

SAMPLE COLLECTION INFORMATION

Collected by(initials):	Date and Time Collected:	Location (full address):
Contents Suspected:		
Samples relinquished by: Print:	Sign:	

A chain of custody should be maintained on all samples submitted and a copy of the chain of custody should accompany the specimens. Specimens should be evidence taped for evidentiary preservation according to CDC collection, packaging and shipping protocols.

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:

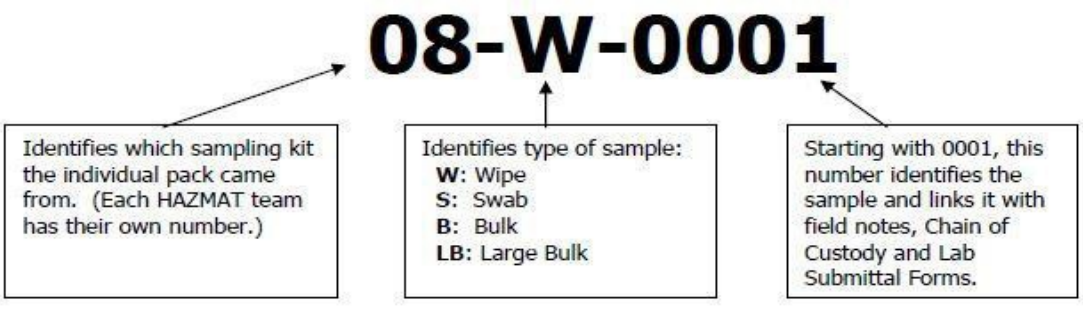
- **Wipe Sample:** Wipe samples may be used in a situation where there is a large amount of unknown material (powder) spread around an open surface such as a table top.
- **Swab Sample:** Swab samples may be used where the unknown material is in a hard to reach location, such as a keyboard or ductwork.
- **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.

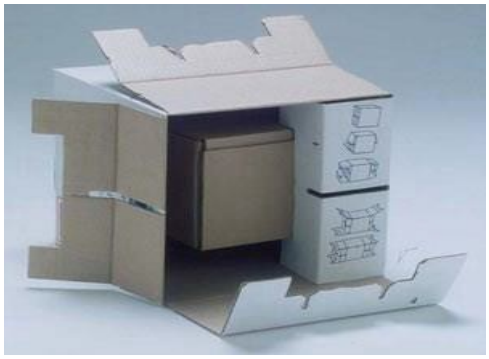
Examples of Category A shipping containers

*Shipping of large bulk samples which will not fit in the Category A box will be handled on an individual basis. Do **NOT** use paint cans.

BioPack-2 Packaging

Saf-T-Pak® STP-100
Category A Ambient Shipping

Saf-T-Pak® STP-110
Category A Ambient Shipping



APPENDIX C1 BULK SAMPLE PROTOCOL

Bulk Sample Protocol

Bulk samples are collected to detect and characterize the presence of biological and/ or chemical 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 SampleProtocol
- Primary bag (1gallon, zip lock,pre-labeled)
- Secondary bag (1gallon, 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).

Bulk Sample Protocol

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. Close the primary bag and decontaminate.

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 10% bleach solution (commercially purchased or made fresh day of use) or other approved decontaminant known to kill anthrax spores i.e. Dahlgren or Cavicide.

6) Place decontaminated double bagged sample into Category A box.

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

All items packaged together.

Large Bulk Sample Protocol

Large Bulk samples are collected to detect and characterize the presence of biological and/or chemical 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 sample

2. The forms should remain in the cool zone

3. Review Downrange procedures (below).

Large Bulk Sample Protocol

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 (<12X12) into the primary bag using one person to hold the bag open. Avoid getting excess air in bag, DO NOT squeeze air out of bag once sample is inside (could create aerosol). Close the primary bag and decontaminate.

3. Place closed primary bag into secondary bag using same method.

4. 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

5. Proceed to designated decontamination area. Decontaminate double bagged sample with 10% bleach solution (commercially purchased or made fresh day of use) or other approved decontaminant known to kill anthrax spores i.e. Dahlgren or Cavicide.

6. Place decontaminated double bagged sample into a Category A box.

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

All items packaged together.

Wipe Sample Protocol

The wipe sample method is used for sample collection on large (>100cm^2), non-porous surfaces such as tabletops, counters, desks, file cabinets, windowsills, 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 the sample pack. **These forms should remain in the cool zone.**

2. Review Downrange procedures(below).

Wipe Sample Protocol

Downrange:

1. After entry, remove sampling materials from 1-gallonzip lock bag. Place cup into 1-gallon zip lock bag.

2. Using sterile gloves, remove 2x2 gauze and add several drops of phosphate-buffered saline onto gauze.

3. Wipe the surface using the following technique: Recommended wipe area is approximately 1 square foot. Unfold the 2x2 gauze completely and then fold in half. Make enough vertical S-strokes to cover the entire sample area. Fold the exposed side of the gauze in and make horizontal S-strokes over the same area. Fold the exposed side of the gauze in once more and wipe the same area using diagonal S-strokes. Avoid letting pad dry completely, however do not add additional saline to remoistened gauze.

4. Fold the gauze, exposed side in, and place it into the sterile specimen cup.

5. Place cup in 1-gallon Ziploc bag and decontaminate.

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 Sample
   e. Map and/or Description of Sample Location

7. Proceed to designated decontamination area. Decontaminate bagged sample with 10% bleach solution (commercially purchased or made fresh day of use) or other approved decontaminant known to kill anthrax spores i.e. Dahlgren or Cavicide

8. Place decontaminated sample into red biohazard bag and then into the Category A 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 (Ziploc bag), and field location marker.

All items packaged together

Swab Sample Protocol

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 the sample pack. **These forms should remain in the cool zone.**
2. Review Downrange procedures(below).

Swab Sample Protocol

Downrange:

1. After entry, remove sampling materials from Ziploc bag.

2. Remove swab from container and moisten with sterile saline (3-5 drops).

3. Wipe the surface using the following technique: Recommended wipearea is less than 100cm^2. 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, do not add additional saline to remoisten.

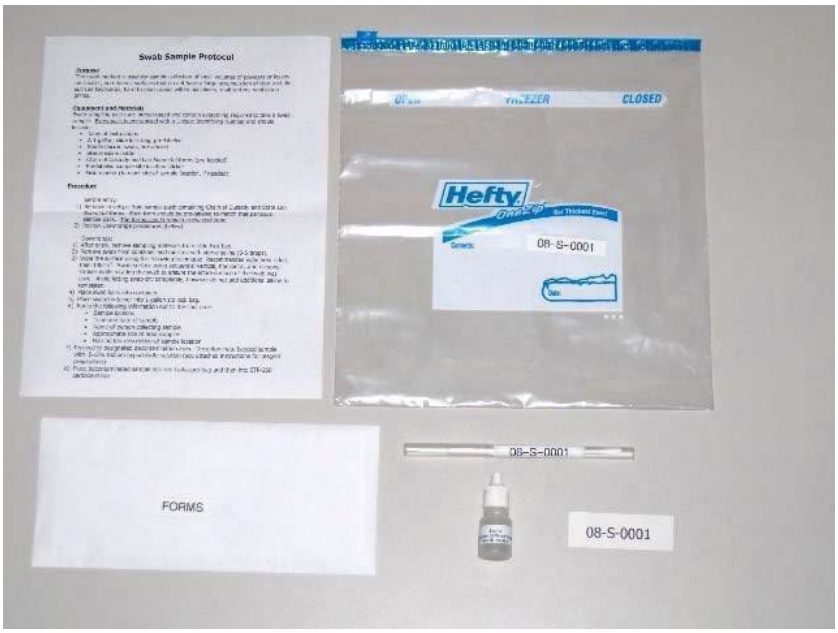
4. Place swab back into container and cap (primary). Decontaminate.

5. Place swab/container into 1-gallon Ziploc bag.

6. Radio the following information out to the cool zone:
   a. Time and date ofsample
   b. Name of person collecting sample
   c. Approximate size of area sampled
   d. Map and/or description of samplelocation

7. Proceed to designated decontamination area. Decontaminate bagged sample (secondary) 10% bleach solution (commercially purchased or made fresh day of use) or other approved decontaminant known to kill anthrax spores i.e. Dahlgren or Cavicide.

8. Place decontaminated sample into CategoryA 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.

All items packaged together.

Liquid Sample Protocol

Purpose

Liquid samples are collected for public safety purposes to detect and characterize suspicious or unknown substances such as biological or non-biological hazardous hazards to the public health and safety.

Liquid sampling equipment, tools and techniques will be dictated by the type of suspicious substance product sample (chemical or biological) and the size of the container, if any holding the product (e.g., residual material pooled on a surface or in a container).

The tools and equipment used for Sample Collection must be Certified Sterile and be polypropylene. The collection of liquids in most cases include the following:

- Transfer Pipette (Certified Sterile, Polypropylene)
- Transfer Pipette Pump (Certified Sterile, Polypropylene)
- Wipes – 2"X2" Dacron/Polyester Gauze (DO NOT Use Cotton)
- Sterile Dacron/Polyester Swab (DO NOT Use Cotton)
- COLIWASA (Combined Liquid Waste Sampler) Tube (Certified Sterile, Polypropylene)

Sample packs are pre-packaged and include everything necessary to take 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:

- Primary bag (red biohazard)
- Secondary bag (2 quarts, slide lock)
- Chain of Custody and Lab Submittal forms (pre-labeled)

Liquid Sample Protocol

The following are examples of tools and equipment that will also be needed as listed above.

Sterile Disposable Pipette Clean

Polypropylene Jars

Sterile Centrifuge Tube

COLIWASA Sampler

Sterile Pipette with Pump

Liquid Sample Protocol

Equipment and Materials

Supplies

- Certified Sterile PPE Container (125ml)
- Sterile Polypropylene Containers (500ml)
- 2” x 2” Dacron Gauze
- Disposable Hemostat
- Lab Mat Absorbent Liner for Clean Surface Work Area
- Labels
- Evidence Tamper Tape
- Nitrile Gloves
- Custody
- Disposable Transfer Pipettes
- Disposable Syringe With Tubing

Sampling Equipment and Containers Warning

Samples collected as Biological or Chemical samples **MUST** be collected in polypropylene, containers and by plastic pipettes or Dacron swabs. Glass equipment or containers should not be used because it interferes greatly with the TRF assay for Ricin and Chemical instruments analysis.

Liquid Sample Protocol

Procedure

General

This protocol is intended for a two-person sampling team to conduct the sampling procedure in the hot zone; the procedure should not be performed by a single individual.

The First Team Member (Assistant Sampler/Sample Facilitator) is responsible for communication, photography (FBI Laboratory Publication, Handbook of Forensic Services 2003), ensuring that the sample collection sheet is filled out, and Facilitating Sample Collection (for example, opening and handing materials to the sampler as required, including sample collection containers, gloves, swab, laminated card, other sampling materials, and packaging materials).

The Second Team Member(Sampler) collects the sample and is the only individual to contact the Suspicious Substance. The sampler is responsible for signing the final Chain-of-Custody form outside of the hot zone.

Some jurisdictions may have standard operating procedures requiring the collection of negative controls. Sampling teams should refer to standard operating procedures regarding the collection of any negative controls (also referred to as field and media blanks). Negative controls include unopened sampling media and any wetting solutions. Blanks must be submitted for each lot number used.

All Sample Team members must don a new pair of non-powdered nitrile examination gloves over the gloves that are part of standard PPE ensemble (Sample Team members will have three or more layers of gloves on) for each sample collected. Sample Teams must use appropriate aseptic techniques to minimize cross contamination and sample collusion.

Swab Sampling Technique

Samples collected as biological or chemical samples **MUST** be collected in plastic, preferably polypropylene, containers and by plastic pipettes or Dacron swabs. Glass equipment or containers should not be used because it interferes greatly with the TRF assay for ricin and chemical instrumentanalysis.

Dacron tip swabs are recommended for small area environmental sampling and for cracks and crevices. Swabs may be used to sample liquid material on a nonporous surface such as a desktop, floor or other similar surface. Swabs are appropriate for sampling small surfaces or hard to reach locations of less than 4 inches square (in^2), like crevices, corners, supply air diffusers, air return grills.

Swab sampling technique

Moisten the sterile swab by dipping it in the 10 mL container of phosphate buffer saline solution. Remove any excess liquid by pressing the swab head on the inside surface of the buffer solution container. Once a sterile swab has been moistened, the remaining neutralizing buffer solution and container must be discarded.

Wipe the swab over the surface where the substance was originally found, using closely spaced vertical S-strokes or Z-strokes over the entire sampling area.

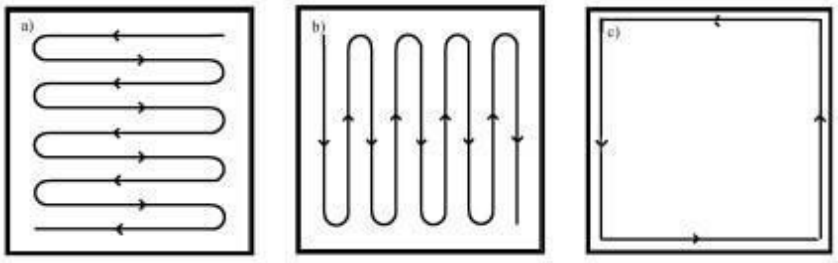
Roll the swab handle (end of the plastic stick furthest from absorbent material) between fingers to rotate the swab, thereby exposing a fresh surface. Wipe the swab over the entire area again, this time using horizontal S-strokes or Z-strokes over the surface. The swab area should preferably not exceed the maximum recommended area of 8 by 8 in. (400 cm^2 or 64 in^2).

Place the head of the swab directly into a sterile screw-capped centrifuge tube. Break off the head of the swab by bending the handle. The end of the swab handle, touched by the collector, should not touch the inside of the tube.

Wipe Sampling Technique

When the sample product is visible on a surface are, or the area to be sampled is at least 100 cm^2. The wipe sample is taken using the S-Wipe method. Recommended wipe area is approximately 1 square foot. Make enough vertical S-strokes to cover the entire sample area. Flip wipe material 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.

Wipe sampling technique



Sampling of Bulk Liquids

The sampling bulk liquids should be performed in accordance with the protocols of ASTM **D 5743** in conjunction with the protocols established by the State laboratory of Public Health and local SOPs for chemical, biological and radiological samples.

This protocol is intended for use in collecting samples of bulk single and multilayered liquids, with or without solids, from drums or similar containers ranging from smaller liquid container of a few milliliters up to 110 gallons, including those that are unstable, ruptured, or otherwise compromised. The size, condition and accessibility of the liquid container will have a significant impact on the selection of sampling equipment.

Samples should be collected in accordance with the appropriate ASTM Standard, local SOPs, the site work plan and sampling plan. Correct sampling procedures must be applied to conditions as they are encountered depending upon whether the sample is suspected of being chemical, biological or radiological in nature. It is impossible to specify rigid rules describing the precise manner of sample collection because of the many variable and unknowns associated with each liquid sampling situation. It is essential that the samples be collected by a trained and experienced sampler and in accordance with State Laboratory of Public Health (SLPH) protocols for the collection of chemical and biological samples. Bulk contained liquids, stratified or unstratified, clear or containing solids must be sampled in accordance with approved SLPH protocols for suspected biological or chemical samples in order to ensure viable forensic analysis. When complex liquid samples are encountered, contact the SLPH for advice on sampling equipment and collection protocols.

The sampling equipment, sample preparation equipment, sample containers, etc. must be clean, dry, and inert and appropriate to the material being sampled. All equipment, including sample containers, must be inspected before use to ensure that they are clear of obvious dirt and contamination and are in good working condition. Visible contamination must be removed, and the equipment must be decontaminated with the appropriate rinse materials.

Decontaminated sampling equipment should be protected from contamination. This may include, but not be limited to: storage in aluminum foil, plastic bags, polytetrafluoroethylene (PTFE) film, or other means of protection that will not impact the sample quality or intended analysis.

Liquid Draw Sampling Technique

When a sample product is visible on a surface area, or the area to be sampled is small in diameter (approximately 10cm x10cm, or 4 x 4 inches), it is recommended that the sampling team use the swab sampling technique or a small sterile pipette.

Liquids that are on surfaces in larger amounts or in containers can be drawn into a disposable pipette (certified clean, or sterile PPE/Teflon/PET for chemical substances and sterile plastic for biological substances) and transferred into the primary sample container. Plastic or polypropylene pipets and sample containers should be used for mixed Chemical / Biological samples.

Syringe with Tubing

Sterile Pipette with Pump

A syringe with tubing can be used to draw liquid samples from areas or containers with small openings or are otherwise inaccessible by other sampling techniques.

The tubing can be weighted if necessary. It is lowered into the liquid. The material is then drawn into the tube and transferred into the primary sample container.

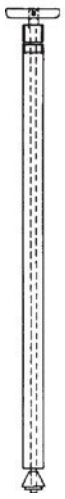
COLIWASA Sampling Techniques

The following describes the procedure for sampling liquids with the composite liquid waste sampler, or "COLIWASA." This sampling technique is based on ASTM D 5495-03.

The COLIWASA is an appropriate device for obtaining a representative sample from **stratified** or **unstratified bulk liquids** that are contained. Its most common use is for sampling bulk containerized liquids, such as tanks, barrels, and drums. It may also be used for large pools and other open bodies of stagnant (not flowing) liquid.

A limitation of the COLIWASA is that the stopper mechanism may not allow collection of approximately the bottom inch of material, depending on construction of the stopper.

The COLIWASA is used to obtain a vertical column of liquid representing an accurate cross-section of the sampled material. To obtain a representative sample of stratified liquids, the COLIWASA should be open at both ends so that material flows through it as it is slowly lowered to the desired sampling depth. The COLIWASA must not be lowered with the stopper in place. Opening the stopper after the tube is submerged will cause material to flow in from the bottom layer only, resulting in gross over-representation of that layer.



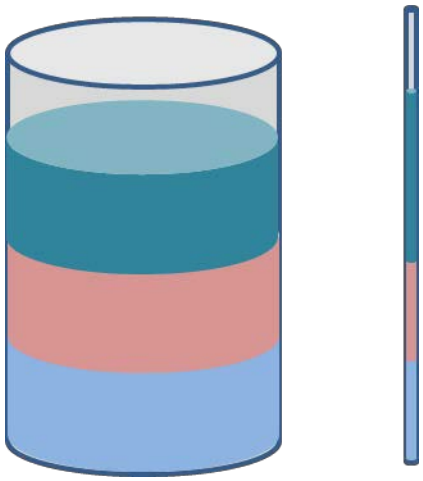
Sampling Position Stopper Open

Stopper Closed

COLIWASA Sampling Techniques

As in all cases where biological or chemical samples are suspected, a plastic or polypropylene COLIWASA should be used for sample collection rather than glass. Use the following procedure when collecting samples using the COLIWASA Sampler.

- Make certain the COLIWASA is clean and functioning properly. It is essential that the stopper at the bottom of the sampling tube closes securely.
- Open the COLIWASA by placing the stopper mechanism in the open position.



- Lower the COLIWASA into the liquid slowly so that the levels of the liquid inside and outside the sampler tube remain about the same. If the level of the liquid in the sample tube is lower than that outside the sampler, the sampling rate is too fast and a non-representative sample will result.
- Use the stopper mechanism to close the COLIWASA when it reaches the desired depth in the liquid.
- Withdraw the sampler from the liquid. Either wipe the exterior of the sampler tube with a disposable cloth or rag or allow excess liquid to drain back into the waste container.
- Carefully discharge the sample into a suitable container by slowly opening the stopper mechanism while the lower end of the COLIWASA is positioned in the sample container.
- Seal the sample container; attach the label and seal.

COLIWASA Sampling Techniques

Assistant Sampler Duties:

The Assistant will keep sample items sealed until just before use to prevent cross-contamination. Aseptic techniques will be used whenever handling the sample product, its containers, and any tools used to collect the samples.

1. Lay down the clean drop cloth to create a clean work area, and place materials on drop cloth.

2. Ensure the following items are documented through radio communication between hot and cold zone personnel and finalization of paperwork in the cold zone prior to sending the sample to the laboratory:

    - Assure that each sample has a unique sample number or identifier
    - Sample location and address
    - Type of sample
    - Time and date of sample
    - Names and signatures of persons collecting sample
    - Measured size of the area sampled
    - Map of sample area including; photos of sample area showing sample locations

3. Prepare all sampling tools and implements for use by the sampler and hand to sampler as needed.

4. Remove the lid from the primary sample container and hand to the sampler.

5. Take the sealed primary sample- decontaminate first- from the sampler and place into secondary sample container if appropriate. The secondary container should be secured by placing absorbent material inside to contain any possible leakage.

COLIWASA Sampling Techniques

6. Place sealed sample into sample transport container for decontamination.

7. Rinse or wipe the outside of the sealed plastic bags containing the primary source, powder sample(s), and swab(s) with decontamination solution– do not dry the outside of the bags afterwards as this will allow appropriate decontamination solution contact time. The outer surface of the larger sealed plastic bag should be decontaminated using a 10 % bleach solution adjusted to a pH of 7.

8. Place decontaminated sample into Category A box.

9. Complete chain-of custody form.

10. Repeat procedure for each sample collected.

Sampler Duties

1. Collect the sample using a technique appropriate to the condition of the sample and transfer into the appropriate primary container using the appropriate technique used for either chemical or biological samples.

2. Place the sample into the appropriate primary sample container and seal the lid. (clockwise direction) around the container lid (as shown in the figure below) to safeguard the sample and reduce the possibility of leakage of the sample from the primary container to the secondary container.

3. Place tamper tape over the primary container lid.

4. Place the sealed primary sample container into a transparent pre-labeled secondary container which should be held by the assistant. Do not touch the outside of the bag.

5. Hand sealed primary sample to assistant sampler for final packaging and decontamination.

6. Repeat procedure for each sample collected

APPENDIX D FBI 12-STEP PROCESS

FBI 12-Step Process

Step 1: Preparation

- Pre-Incident Activities Necessary to Prepare for The Sampling Mission.

Step 2: Approach of Scene

- During Response to The Scene, Obtain as Much Additional Awareness as Possible.
- Once on Scene, Review Any Existing Site Safety Plans or Incident Action Plans That Has Already Been Developed**.**
- Begin Developing Your Size-Up as To Potential Resource Needs and Safety Issues That May Be Present.

Step 3: Secure and Protect of Scene

- Isolate the Immediate Scene and Evacuate any Endangered Individuals.
- Removal of Non-Essential Personnel.
- Securing Scene (Barrier Control).
- Search Warrant Considerations.

Step 4: Reconnaissance Survey

- Safety Considerations.
- Cursory Search Identifying Obvious Items of Evidence.
- Create A “Game Plan.”
- Complete A Rough Sketch.

Step 5: Evaluation Possibilities

- Is Going to Be Scene Dependent.
- Do Not Attempt to Sample Everything.
- Develop A Written Sampling Plan.

Step 6: Prepare Narrative

- Record Pertinent Data Immediately.
- Arrival.
- Actions Taken.
- Personnel Present.
- Presence of Evidence That Was Visible Without Searching.
- Scene Entry.

FBI 12-Step Process

Step 7: Depict Scene Photographically

- Videotape.
- Photography.
- Depictions.

Step 8: Scene Diagram

- Rough Sketch.
- Final Sketch.
- Methods.

Step 9: Conduct Search

- Assemble Necessary Supplies.
- Establish and Communicate Objectives to Sampling Team During Pre-Entry Briefing.
- Utilize Aseptic Techniques and Maintain Safety Awareness.
- Sampling of Primary Containers.
- A “Blank” Or “Control” Container for Each Primary Sample Container.

Step 10: Record and Collect

- All Samples Shall Have and Maintain Individual Chain of Custody.
- All Individual Samples Are Then Transferred to And Maintained by An Evidence Custodian.

Step 11: Final Survey

- Final Entry Is Made into The Area to Ensure That All Necessary Samples Have Been Collected and That All Safety Issues Have Been Addressed.
- This Review May Include A Detailed Additional Search to Ensure No Items of Evidence Have Been Overlooked.

Step 12: Release of Scene

- Proper Disposal of Hazardous Waste Will Be A Primary Concern.
- Hazardous Waste Is Generally Segregated and Disposed of Based Upon Hazard Class.
- Scene Is Released to Property Owner/Contractor or Other Agency.
- Hazards Present Must Be Clearly Communicated to The Receiving Authority.
- Any Re-Entry by Law Enforcement or Fire Personnel May Require A New Search Warrant.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH
NORTH CAROLINA STATE LABORATORY OF PUBLIC HEALTH
4312 DISTRICT DRIVE
RALEIGH, NC 27607
24/7 Emergency Phone: (919) 807-8600

SUSPICIOUS SUBSTANCE/PACKAGE CHAIN OF CUSTODY FORM

SUBMITTER DATA

Please fill in all data in appropriate boxes

Investigator Name:			Date Submitted:
Agency:			Agency Case No.:
Address:			
City/County:		State:	Zip Code:
Phone No.:	Fax No.:		E-mail:
24-hour contact name (for emergency) Name:		24-hour phone number (for emergency) Phone:	

SAMPLE DESCRIPTION

Laboratory Sample Number(s):
Sample Description:

Total Number of Containers/Samples: _____

SAMPLE COLLECTION INFORMATION

Collected by(initials):	Date and Time Collected:	Location (full address):
Contents Suspected:		

CHAIN OF CUSTODY

Relinquished by:	Organization:	Date/Time:

Received by:	Organization:	Date/Time:
Custodial Agent:	Action:	Date/Time:
Custodial Agent:	Action:	Date/Time:

Moved from/to:	Date:	Time:	Initials	Signature:

Moved from/to:	Date:	Time:	Initials:	Signature:

Moved from/to:	Date:	Time:	Initials:	Signature:

Fentanyl Safety for First Responders*

BACKGROUND :

Fentanyl is a powerful synthetic opioid 50 to 100 times more potent than morphine.[1] As little as two milligrams, about the size of 5 grains of salt, can cause negative health effects including trouble breathing, dizziness, and possible overdose.

There are 42 known illicitly manufactured fentanyl analogs on the market.[2] Fentanyl has been detected in counterfeit pills, powder, blotter paper, heroin, cocaine, crack cocaine, and crystal methamphetamine[3]. Fentanyl can be swallowed, snorted, injected or absorbed in the mouth with a blotter paper.[1] While some users may seek fentanyl products, some users and sellers may not be aware that their substances contain fentanyl.

Because of fentanyl's strength and increasing prevalence,[4,5] there is growing concern about fentanyl exposure for first responders and others who might be potentially exposed. **To date, there have been no documented nor confirmed cases of overdoses among first responders in North Carolina through occupational exposure via routine duties.**

First responders can protect themselves from fentanyl exposure by:

1. **Knowing the risks of fentanyl exposure**
2. **Taking appropriate precautions when fentanyl might be present**
3. **Knowing the signs of fentanyl intoxication, and having naloxone readily available**

What are the risks of fentanyl exposure for first responders?

A first responder can be exposed to fentanyl in one of five ways: skin contact, inhalation, ingestion, contact with a mucous membrane (eyes, nose, etc), or with a needlestick. The most likely way for a first responder to be exposed to fentanyl is through brief skin exposure. For skin exposure, clinical toxicology experts[6] state:

"The risk of clinically significant exposure to emergency responders is extremely low."

Skin exposure is not expected to lead to toxicity due to its extremely poor penetration of the skin barrier, and symptoms of intoxication from skin exposure are unlikely. If your skin is exposed to fentanyl, you should wash the area with water as quickly as possible. **Do not use alcohol based hand sanitizers or bleach; they do not effectively wash opioids off skin and may increase skin absorption of fentanyl.**

First responders are unlikely to be exposed through the other four methods of exposure (inhalation, ingestion, contact with a mucous membrane, or a needlestick) if they are following good practice and using universal precautions. Situations involving large amounts of fentanyl, such as a laboratory raid that puts significant powder into the air, is a very rare occurrence.
If you have been exposed to fentanyl and develop symptoms of fentanyl intoxication (see below), contact the **Carolina Poison Control 1-800-222-1222** and follow any additional protocols from your agency regarding reporting.

What should first responders do when fentanyl might be present?

Conduct a risk assessment for the presence of fentanyl

- **Is a person unconscious and the cause unknown?**
- **Are suspected drugs or paraphernalia visible?**
- **What is the form and volume of suspected drugs?**

During the assessment assume any white powder is fentanyl.

If the presence of fentanyl or any synthetic opioid is suspected, after addressing the immediate health needs of individuals at the scene, personnel should contact the appropriate officials within their agency who have been trained to handle hazardous materials, or contact the nearest SBI or DEA field office for assistance.

Fentanyl Safety for First Responders*

Centers for Disease Control and Prevention (CDC) Recommends[2]:

- Do not eat, drink, smoke, or use the bathroom while working in an area with known or suspected fentanyl.
- Do not touch your eyes, mouth, or nose after touching any surface potentially contaminated with fentanyl.
- Field testing fentanyl or its analogs is not recommended because it increases the risk of exposure to responders.
- Avoid performing tasks that may cause fentanyl to become airborne, including handling and field testing. Activities that cause fentanyl to become airborne require higher levels of Personal Protective Equipment (PPE) and should be conducted by appropriately trained personnel and in accordance with agency policies and procedures.
- Wash hands with soap and water immediately after a potential exposure and after leaving a scene where fentanyl is known or suspected to be present to avoid potential exposure and to avoid cross contamination.
- Do not use hand sanitizers or bleach solutions to clean contaminated skin.

What are the symptoms of fentanyl intoxication?

The symptoms of fentanyl intoxication include:

- **Respiratory distress, respiratory depression or arrest**
- **Drowsiness**
- **Dizziness**
- **Disorientation**
- **Pinpoint pupils**
- **Loss of consciousness**
- **Nausea/Vomiting**

First Responder QUICK TIPS

- Wear gloves when handling narcotics.
- Do not open packaged narcotics.
- Do not field test unknown substances.
- Use soap and water rather than hand sanitizer.

Naloxone is the antidote for opioid overdose. First, **call 911** or request medical assistance. Naloxone should be administered to a person with signs of opioid overdose, such as a person whose breathing has slowed down or stopped or a person losing consciousness. Naloxone can be administered via intramuscular/intravenous injection or through the nose with nasal naloxone.

Due to the potency of fentanyl, a person may need multiple doses of naloxone until breathing has returned to normal. Those who do not improve with naloxone should receive airway support.

If a healthcare worker or first responder has symptoms, please call Poison Center 1-800-222-1222 for additional instructions and reporting of incident.

References:

1 Fentanyl. National Institute on Drug Abuse. NIH. Accessed September 19, 2017. https://www.drugabuse.gov/publications/drugfacts/fentanyl

2. Fentanyl: Preventing Occupational Exposure to Emergency Responders. The National Institute for Occupational Safety and Health (NIOSH). CDC. Accessed September 19, 2017. https://www.cdc.gov/niosh/topics/fentanyl/risk.html

3. NC SBI Crime Lab. Personal Communications November 2017

4. Fentanyl: The Next Wave of the Opioid Epidemic. Debray Houry, M.D., Director National Center for Injury Prevention and Control, CDC, U.S. Department of Health and Human Services (HHS). Accessed September 19, 2017.

5 The First Count of Fentanyl Deaths in 2016: Up 540% in Three Years. Accessed September 19, 2017. https://www.nytimes.com/interactive/2017/09/02/upshot/fentanyl-drug-overdose-deaths.html?mcubz=1

6 American College of Medical Toxicology (ACMT) & American Academy of Clinical Toxicology (AACT). Position Statement: Preventing Occupational Fentanyl and Fentanyl Analog Exposure to Emergency Responders. Accessed September 19, 2017. http://www.acmt.net/_Library/Fentanyl_Position/Fentanyl_PPE_Emergency_Responders_.pdf

7 Opioid Overdose Toolkit. Substance Abuse and Mental Health Services Administration (SAMHSA). Accessed September 19, 2017. https://store.samhsa.gov/shin/content/SMA13-4742/Overdose_Toolkit_2014_Jan.pdf

***For the purpose of this document, the term "fentanyl" refers to illicit fentanyl (non-pharmaceutical), including compounds that contain fentanyl, which are known as fentanyl analogs.**

POISON Help 1-800-222-1222 | NCPH North Carolina Public Health | SBI

North Carolina Guidelines for Management of Occupational Exposures to Fentanyl

Specialized testing for fentanyl and derivatives is recommended for incidental occupational exposures for individuals believed to be or potentially poisoned by fentanyl and/or its derivates. Facilitate as follows:

1. If a healthcare worker or first responder has symptoms, please call the North Carolina Poison Control at **1-800-222-1222** for instructions on treatment and clinical management of the patient.
2. Poison Control will immediately report the incident to the Public Health Preparedness and Response Branch (PHPR) 24-hour emergency operations on-call phone at **888-820-0520**.
3. PHPR will notify the State Laboratory of Public Health 24-hour emergency operations duty phone at **919-807-8600** AND the Occupational and Environmental Epidemiology Branch at **919-695-2662** to coordinate additional testing.