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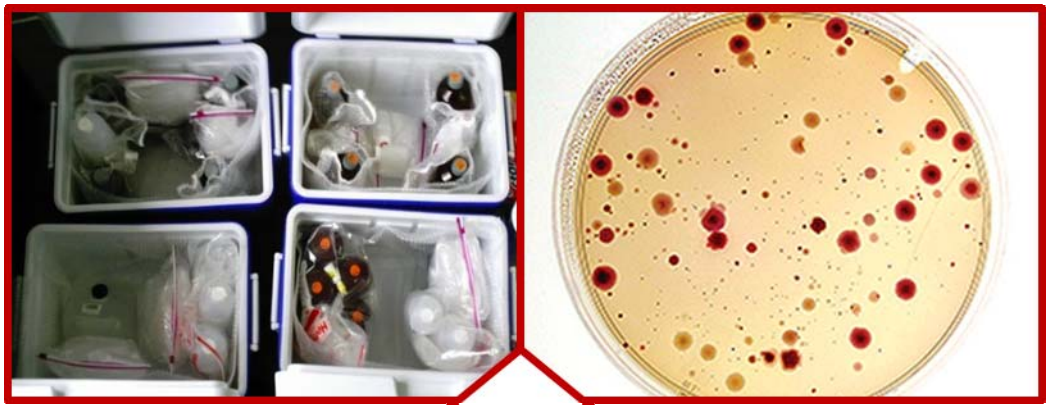
Sample Collection Information Document for Pathogens and Biotoxins

Companion to Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events (SAM) Revision 5.0



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Office of Research and Development
National Homeland Security Research Center

Sample Collection Information Document for Pathogens and Biotoxins

Companion to Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events (SAM) – Revision 5.0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Research and Development, National Homeland Security Research Center, Cincinnati, OH 45268

Office of Research and Development
National Homeland Security Research Center, Threat and Consequence Assessment Division

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List of Attachments

Acronyms and Abbreviations

AOAC	Association of Official Analytical Chemists
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
Ch.	Chapter
COC	Chain-Of-Custody
CSC	Computer Sciences Corporation
°C	Degrees Celsius
DGR	Dangerous Goods Regulations
DHS	U.S. Department of Homeland Security
DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FDA	U.S. Food and Drug Administration
g	gram(s)
GPS	Global positioning system
HASP	Health and Safety Plan
IATA	International Air Transportation Association
ISO	International Organization for Standardization
L	Liter
LRN	Laboratory Response Network
MCE	Mixed cellulose ester
mL	Milliliter
NEMI	National Environmental Methods Index
NHSRC	National Homeland Security Research Center
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
n.o.s.	Not otherwise specified (as used in 49 CFR Part 172)
NOS	Not otherwise specified (as used in EPA's *Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events*)
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline and Hazardous Materials Safety Administration
PPE	Personal protective equipment
psi	Pound-force per square inch
PTFE	Polytetrafluoroethylene (Teflon®)
QC	Quality control
SAM	*Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events*
SCID	Sample Collection Information Document
SCP	Sample Collection Plan
spp.	Species
UN	United Nations
USGS	United States Geological Survey
VCSB	Voluntary Consensus Standards Body

Sample Collection Information Document for Pathogens and Biotoxins

[Companion to Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events (SAM) − Revision 5.0]

1.0 Background

The U.S. Environmental Protection Agency's (EPA's) National Homeland Security Research Center (NHSRC) has worked with experts from across EPA and its sister agencies since 2003 to develop a compendium of analytical methods to be used when responding to national homeland security related incidents. Analytical methods have been selected for chemical, radiochemical, pathogen, and biotoxin analytes of concern for the types of environmental sample matrices that are anticipated in such incidents. The results of these efforts have been published in several revisions of EPA's *Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events* (SAM), available at http://www.epa.gov/sam. NHSRC periodically reviews and updates the SAM document to address the needs of homeland security, reflect improvements in analytical methods and new technologies, and incorporate changes in target analytes.

During development of the SAM documents, EPA recognized the need for a companion document to provide information regarding collection of samples for analysis by the methods listed in SAM. This document is intended to address this need, in part, by providing information regarding sample containers, preservation, size, packaging, and sources for additional information supporting collection of samples to be analyzed for the pathogens and biotoxins listed in SAM, using the methods listed in SAM Revision 5.0. As with SAM, NHSRC plans to update the information in this document periodically, to reflect changes to the analytes and/or methods listed in SAM.

> The information contained in this document is intended to support and be used with the methods listed in SAM Revision 5.0 for analysis of SAM pathogens and biotoxins. The information will be reviewed and updated periodically, along with the SAM document, to reflect advances in technologies, results of method evaluation and validation studies, and additional analytes or matrices.

2.0 Scope and Application

This Sample Collection Information Document (SCID) provides general information for use by EPA and its contractors when collecting samples during environmental remediation following a homeland security event. The document is intended to be used with SAM, and to provide information needed for collection of samples to be analyzed using the specific methods and procedures listed in SAM Revision 5.0.* Where possible, the information provided was obtained from the sample collection requirements and guidelines included in the SAM Revision 5.0 analytical methods. Where this information was not available, additional sources were used (see Section 7.0).

* SAM Revision 5.0 and its methods are available at: www.epa.gov/sam under the Archived SAM Documents link.

The information in this document is intended to be used during site assessment, remediation, and clearance activities following a homeland security event; it assumes that samples will be collected by personnel trained in collection of environmental samples containing the target pathogens and biotoxins and in dealing with the corresponding safety concerns. Information is included regarding containers, collection volume or weight, preservation, holding times, and packaging of samples representing the matrices listed in SAM, for measurement of the analytes listed in SAM Revision 5.0.

NOTE: It is possible that some of the information in this document should be modified to address site- or event-specific data needs; for example, additional sample volume may be needed for quality control (QC) or in cases when a low concentration of analyte is suspected. Sample Collection Plans (SCPs) should be in place and consulted for specific sample collection requirements prior to initiation of sample collection activities. Site- or event-specific SCPs include information regarding laboratory capacity, the extent of contamination, target analytes, data quality objectives, sample locations, and the number and type of samples needed.

2.1 Sample Collection Information Tables

This document contains the following two tables listing information for collection of samples that will be analyzed for measurement of the analytes listed in SAM Revision 5.0:

- Attachment A: Sample Collection Information for the Pathogens Listed in SAM Revision 5.0
- Attachment B: Sample Collection Information for the Biotoxin Analytes Listed in SAM Revision 5.0

Each table provides the sample size that should be collected to support sample analysis, the preservatives and/or temperature needed to maintain sample integrity prior to analysis, the maximum amount of time that should elapse between sample collection and the initiation of analytical procedures (e.g., sample analysis, digestion, inoculation), the appropriate type of container, the sample label and packaging procedures needed for sample shipment, and the source(s) used to provide the information.

2.2 Document Development

EPA developed a hierarchy of references to prioritize the documents and resources that were used to identify the information that is included in this document. The first sources consulted were the methods listed in SAM Revision 5.0. If those methods included sample collection information, the information was evaluated and, if appropriate, included in the sample collection information tables. The second sources consulted were EPA procedures for collection of samples addressing the specific analyte/matrix pair. If there were no EPA procedures available, other federal agency or Voluntary Consensus Standards Body (VCSB) methods were consulted. If no procedures were identified for collection of a particular analyte/matrix combination, methods for that analyte in other matrices were considered, followed by procedures described and supported by data in research literature, such as journal articles. The following agencies, organizations, and publications were used:

- U.S. EPA – United States Environmental Protection Agency
- AOAC – AOAC International (formerly Association of Official Analytical Chemists)
- CDC – Centers for Disease Control and Prevention

- CFR – Code of Federal Regulations
- U.S. DHS – United States Department of Homeland Security
- U.S. DOL – United States Department of Labor
- U.S. DOT – United States Department of Transportation
- U.S. FDA – United States Food and Drug Administration
- USGS – United States Geological Survey
- IATA – International Air Transport Association
- ISO – International Organization for Standardization
- LRN – Laboratory Response Network
- NEMI – National Environmental Methods Index
- NIOSH – National Institute for Occupational Safety and Health
- OSHA – Occupational Safety and Health Administration
- *Standard Methods for the Examination of Water and Wastewater*
- Journals: *Analyst, Applied and Environmental Microbiology, Current Protocols in Microbiology, FEMS Microbiology Letters, Journal of Virological Methods, Public Health Reports*

2.3 Limitations

This document provides summary information only regarding collection of samples to be analyzed for measurement of the target analytes listed in SAM. Although at this time much of the information has not been tested for a particular analyte (e.g., analytes not explicitly identified in the method) or matrix, the information listed is considered to be the most appropriate currently available information. For example, research is needed to determine appropriate preservation and holding times for many of the chemical and biological agents. Many of the target analytes listed in this document have only recently become an environmental concern, and EPA is actively pursuing development and validation of appropriate sample collection procedures.

Sample Collection Plans must be consulted for site- or event-specific requirements, including QC and reporting. The information sources cited in this document also should be consulted for additional details regarding sample collection, including QC requirements, sample handling, packaging, shipping, and safety procedures. Samplers should check with the incident commanders for special instructions regarding evidentiary matters prior to sample collection.

3.0 Health and Safety Considerations

This document assumes that a site- or event-specific Health and Safety Plan (HASP) is in place that includes the safety concerns and requirements regarding the specific types of hazards that should be considered during a sample collection event. This section provides general guidelines regarding health and safety concerns when sampling environmental material in response to a homeland security event. At a minimum, all sampling team members should be trained in Occupational Safety and Health Administration (OSHA) requirements for hazardous waste operations and emergency response at 29 CFR 1910.120 or 29 CFR 1926.65 and have current medical screening.

3.1 Health and Safety Plans

Health and Safety Plans (HASPs) will vary depending on the site, the sampling phase (site assessment, remediation, or final status determination), and the responsible organization. The purpose of these plans is to ensure maximum protection to workers,

the environment, and surrounding communities, in a way that is consistent with requirements needed to perform operational activities. At a minimum, HASPs should include instructions and guidelines regarding:

- Names, positions, and contact information of key personnel and health and safety personnel
- Site- or event-specific risk assessment addressing sample collection activities
- Training requirements
- Personal protective equipment (PPE) on site and usage requirements
- Medical screening requirements (maintain confidential documents properly and securely)
- Site or event control
- Emergency response plan, containing off-site emergency contact information such as local hazardous materials response teams or additional trained rescue personnel (29 CFR 1910.38)
- Entry procedures
- Spill containment
- Decontamination procedures

NOTE: Entry and decontamination procedures should address personnel monitoring and decontamination during entry and egress.

3.2 Personal Protective Equipment

Each site or event also will dictate the level of PPE that will be required. Selection of protective clothing is dependent on site conditions and sample collection requirements included in the SCP. Specific guidance for selection of PPE is provided in 29 CFR 1910.120, Appendix B. Factors that should be considered during selection include: contaminant identification, routes of exposure (i.e., inhalation, skin absorption, ingestion, and injection), performance of equipment in protecting against exposure, activity duration, and stress induced by work requirements. Because the use of PPE can also cause hazards to workers (e.g., heat stress, impaired vision and mobility), care should be taken to provide a level of protection that is sufficient to prevent exposure yet is not too high so as to create other unnecessary hazards.

3.3 Training

Sample collectors must be trained in collection and handling of samples suspected of containing the contaminants of concern (see Attachments A and B), must be up to date regarding medical screening requirements, and must be approved for site entry. Additionally, sample collectors must be trained in the following:

- Ability to select and work with the appropriate level of PPE
- Decontamination procedures
- Prevention of sample cross-contamination

4.0 Preparation for Sample Collection

It is highly recommended that sampling kits be used during sample collection, and that these kits be properly equipped, maintained, and organized before deployment of sample collection personnel. Sample collectors should consult with project managers and the SCP to determine what equipment and materials should be assembled. Sample kits should contain all sample containers, materials, supplies, and forms needed to perform sample collection, decontamination, documentation, and field packaging activities.

4.1 Field Sampling Equipment and Supplies

Before starting field sampling activities, all necessary equipment and supplies should be identified and available. The following is a preliminary list of equipment that needs to be specified and available (from U.S. Geological Survey [USGS] and National Institute of Standards and Technology [NIST]):

- Sampling devices (e.g., air filters, soil samplers, water samplers, air filter samplers)
- Sample preservation equipment (e.g., acids, dechlorinating reagents)
- Sample volumetric measuring devices and/or weighing devices
- Sample containers and packaging equipment
- PPE
- Record keeping devices (e.g., logs, Chain-of-Custody [COC] forms, writing instruments)
- Site maps, global positioning system (GPS) recorders, etc.
- Sample location markers
- Pre-labeled and pre-weighed sampling containers
- Shipping containers, shipping forms, and shipping labels

4.2 Field Data Documentation

All data collected in the field should be adequately documented. Documented information should include (for example):

- Names of field sampling personnel
- Sample Collection Plan (SCP)
- Sample location(s)
- Sampling depth
- Physical and meteorological conditions
- Date and time of sampling
- Sample medium
- Expected radionuclides (if applicable)
- Sample identification number
- Sample size (weight, volume), sample duration (air filters), air volume, etc.
- Sample handling precautions

5.0 Preparation of Sample Containers

5.1 Sample Container Labels

Each sample container has a label that provides information uniquely identifying and describing the sample. A single, unique label is affixed to each sample container, sample information is added in waterproof ink, and the label is covered with clear tape. Alternatively, a pre-prepared bar code that tracks the sample information can be affixed to the container. Sample container labels or bar codes include information regarding the date and time of sample collection; date, time and type of sample preservation; sample identification numbers; and the names and signatures of sample collectors.

5.2 Preparing Sample Containers for Packaging

Once samples have been collected and preserved as specified, containers are prepared for shipment to the analytical laboratory. Sample containers should be labeled, sealed, and cleaned or disinfected prior to packing into transport or shipping containers. Summary procedures for cleaning and sealing sample containers are provided in the tables included in Attachments A and B. General information regarding packing samples into transport containers outside the contaminated area is provided as a footnote to each table.

5.3 General Sample Shipment Guidelines

Samplers are responsible for ensuring compliance with DOT and the IATA regulations regarding the transfer of hazardous substances and environmental samples. These regulations, 49 CFR 172 and 173 or DOT (organized by separate subparts as references in Section 7.0) and the Dangerous Goods Regulations (DGR) for IATA, provide specific details regarding proper marking, labeling, placarding, packaging, and shipment of hazardous materials, substances and wastes, and regulatory exceptions and must be consulted prior to preparation of or planning for sample shipment. Summary information regarding the appropriate labeling and packaging of sample transport containers is provided in the sample collection information tables included in Attachments A and B.

5.4 Chain-of-Custody Forms

Chain-of-Custody (COC) forms create a written record that can be used to trace the creation, possession, and handling of the sample from the moment of its collection through analysis. A COC form accompanies each sample or group of samples as custody of the sample(s) is transferred from one custodian to another. One copy of the form is retained by the original sample collector. If multiple laboratories are receiving a sample, individual COCs are provided to each individual laboratory, each COC representing the contents of the sample shipment. Sample collectors are responsible for the initial maintenance and completion of COC forms. Although COC forms vary in style, format, and detail, the forms should contain the same minimal information required to identify the sample. At a minimum, sample collectors are responsible for providing the following information on the COC form:

- General incident information (sample owners, contact information, site name)
- Sample information (e.g., sample identification number, sample type [matrix], whether grab or composite, number and type of sample containers, and date/time sample was collected)
- Date and time the sample was relinquished
- Signature of persons transferring and receiving the samples

5.5 Custody Seals / Tamper-evident Bags

Custody seals are attached over the cap of each sample container to ensure the sample has not been opened or tampered with after collection and packaging. A custody seal also can be placed over the shipping or transport container, making it impossible to open the container without ripping the seal. Typically, there is one seal per sample container and two seals placed on opposite sides of the shipping container. Custody seals contain the signature of the person responsible for packing the container and the date sealed. The seal must be sturdy to resist incidental contact but able to break when the cap or lid is moved. Sample collectors should:

- Sign and date the sample custody seal, usually a 1- by 3-inch white paper label with black lettering and an adhesive backing. The custody seal is part of the COC process and is used to prevent or identify tampering with samples.
- Place the custody seal across the container lid so that the seal would be broken if a container were to be opened. This often requires multiple seals covering any opening. If a cooler is used, ensure that the water drainage point is secure.

Alternatively, sample containers may be placed into a tamper-evident bag. Bags/seals with a unique identifier must be associated with the person collecting the sample through logbook entries, preservation of tear-off strips in the logbook, or similar means. When using a tape-type tamper-evident seal, the initials of the person securing the container and the date that it was secured must be recorded on the seal.

6.0 Definitions

The following definitions are provided to describe the information listed in the sample collection tables:

- **Analyte** – The compound or class of compounds that will be measured in the sample collected. The analytes in this document are identical to the pathogens and biotoxins listed in SAM Revision 5.0.

- **Container** – The type of container (e.g., bottle, bag) that must be used to hold the sample. The container must be sufficient to maintain sample integrity and be composed of materials that will remain inert when in contact with the sample.

- **Holding Time** – The maximum amount of time allowable from sample collection until sample analysis, extraction, or inoculation.

- **Matrix** – The principal material of which the sample is composed. The matrices in this document are identical to the matrices listed for the pathogen and biotoxin analytes in SAM Revision 5.0.

- **Packaging** – Sample container packaging requirements for shipment of sample to the laboratory.

- **Preservation** – Conditions and/or chemicals used to maintain the integrity of a sample. Some common preservatives include, sodium thiosulfate, and temperatures < 10°C and above freezing (biological analytes).

- **Sample Size** – The minimum amount of sample that should be collected to support analysis of a single sample. Volume and weight requirements depend on the target analyte(s), the analytical method that will be used, and the data requirements.

- **Shipping Label** – U.S. DOT shipping label requirements under 49 CFR 172 and 173.

- **Source** – The reference(s) supporting the information that is provided in the table.

7.0 References

Analytical methods listed in Attachments A and B can be accessed through SAM at http://www.epa.gov/sam/. In addition to these methods, the following resources were used to prepare this document:

- AOAC International. Method 993.06: "Staphylococcal Enterotoxins in Selected Foods." *Official Methods of Analysis of AOAC International*. 16th Edition, 4th Revision, Volume I.

- Centers for Disease Control and Prevention. "Emergency Preparedness and Response, Bioterrorism Agents and Diseases." http://www.bt.cdc.gov/agent/agentlist-category.asp (accessed October 7, 2009).

- Duchaine, C., Thorne, P.S., Meriaux, A., Grimard, Y., Whitten, P., and Cormier, Y. 2001. "Comparison of Endotoxin Exposure Assessment by Bioaerosol Impinger and Filter-Sampling Methods." *Applied and Environmental Microbiology*. 67(6): 2775–2780.

- Fout, G.S., Martinson, B.C., Moyer, M.W.N., and Dahling, D.R. June 2003. "A Multiplex Reverse Transcription-PCR Method for Detection of Human Enteric Viruses in Groundwater." *Applied and Environmental Microbiology*. 69(6): 3158–3164.

- Huq, A., Grim, C., Colwell, R., and Nair, G.B. September 2006. "Detection, Isolation, and Identification of Vibrio cholerae from the Environment." *Current Protocols in Microbiology*. 6A.5.1–6A.5.3.8.

- Hunt, M.E. and Rice, E.W. 2005. Part 9000, "Microbiological Examination." In Eaton, A.D., Clesceri, L.S., Rice, E.W., Greenberg, A.E., and M.A.H. Franson (eds.). *Standard Methods for the Examination of Water and Wastewater*, 21st Edition. American Public Health Association, American Water Works Association, and Water Environment Federation.

- International Air Transport Association. 2009. "Guidance Document – Infectious Substances." International Civil Aviation Organization Dangerous Goods Panel. http://www.iata.org/NR/rdonlyres/9C7E382B-2536-47CE-84B4-9A883ECFA040/0/Guidance_Doc62DGR_50.pdf (accessed October 6, 2009).

- Jothikumar, N., Kang, G., and Hill, V.R. 2009. "Broadly Reactive TaqMan® Assay for Real-Time RT-PCR Detection of Rotavirus in Clinical and Environmental Samples." *Journal of Virological Methods*. 155: 126–131.

- Lawton, L.A., Edwards, C., and Codd, G.A. 1994. "Extraction and High-Performance Liquid Chromatographic Method for the Determination of Microcystins in Raw and Untreated Waters." *Analyst*. 119(7): 1525–1530.

- Metcalf, J.S., Beattie, K.A., Saker, M.L., and Codd, G.A. 2002. "Effects of Organic Solvents on the High Performance Liquid Chromatographic Analysis of the Cyanobacterial Toxin Cylindrospermopsin and Its Recovery from Environmental Eutrophic Waters by Solid Phase Extraction." *FEMS Microbiology Letters*. 216(2): 159–164.

- National Environmental Methods Index (NEMI). EPA, U.S. Geological Survey. http://www.nemi.gov (accessed October 9, 2009).

- Rees, H.B., Smith, M.A., Spendlove, J.C., Fraser, R.S., Fukushima, T., Barbour, A.G., and Schoenfeld, F.J. 1977. "Epidemiologic and Laboratory Investigations of Bovine Anthrax in Two Utah Counties in 1975." *Public Health Reports*. 92(2): 176–186.

- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Institutes of Health. 2007. *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), 5th Edition. http://www.cdc.gov/OD/ohs/biosfty/bmbl5/bmbl5toc.htm (accessed October 9, 2009).

- U.S. Department of Health and Human Services. March 2005. 42 CFR 72 and 73. "Possession, Use, and Transfer of Select Agents and Toxins; Final Rule." http://oig.hhs.gov/authorities/docs/05/032905FRselectagents.pdf (accessed October 9, 2009).

- U.S. Department of Labor. 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," 29 CFR 1910.120, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear," and 1910.38 "Emergency Action Plans," http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910 (accessed September 9, 2009).

- U.S. Department of Labor. 29 CFR 1926.65. "Hazardous Waste Operations and Emergency Response." http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10651 (accessed September 12, 2009).

- U.S. Department of Transportation. 49 CFR 172.132. "Class 6, Division 6.1–Definitions." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=83da38916033d89f6878ec32ec075547&rgn=div5&view=text&node=49:2.1.1.3.8&idno=49#49:2.1.1.3.8.4.25.11 (accessed October 16, 2009).

- U.S. Department of Transportation. 49 CFR 172.301. "General Marking Requirements for Non-Bulk Packagings." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=d81d7ff28b86d87924b55054fe165e72&rgn=div5&view=text&node=49:2.1.1.3.7&idno=49#49:2.1.1.3.7.4.25.2 (accessed October 9, 2009).

- U.S. Department of Transportation. 49 CFR 173. "Shippers – General Requirements for Shipments and Packaging" http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=49:2.1.1.3.8&idno=49 (accessed October 9, 2009).

- U.S. Department of Transportation. 49 CFR 173.153. "Exceptions for Division 6.1 (poisonous materials)." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=4a9f058a58f4bfdc9f73305868931710&rgn=div8&view=text&node=49:2.1.1.3.8.4.25.23&idno=49 (accessed October 9, 2009).

- U.S. Department of Transportation. October 2009. 49 CFR 173.134. "Class 6, Division 6.2 – Definitions and Exceptions." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=c30b0da7226a685510de2fc035f0aa27&rgn=div8&view=text&node=49:2.1.1.3.8.4.25.13&idno=49 (accessed October 6, 2009).

- U.S. Department of Transportation. October 2009. 49 CFR 173.199. "Category B Infectious Substances." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=49:2.1.1.3.8&idno=49#49:2.1.1.3.8.5.25.32 (accessed October 9, 2009).

- U.S. Department of Transportation. 49 CFR 173.211 – 173.213. "Non-bulk Packagings for

Solid Hazardous Materials in Packing Groups I – III. http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=6825997bfe550b32bd2e47d31cbe7802;rgn=div5;view=text;node=49%3A2.1.1.3.8;idno=49;cc=ecfr#49:2.1.1.3.8.5.25.39 (accessed September 12, 2009).

- U.S. Department of Transportation. 49 CFR 173.4. "Small Quantities for Highway and Rail." http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=6825997bfe550b32bd2e47d31cbe7802;rgn=div5;view=text;node=49%3A2.1.1.3.8;idno=49;cc=ecfr#49:2.1.1.3.8.1.25.5 (accessed September 12, 2009).

- U.S. Department of Transportation. October 2006. "Transporting Infectious Substances Safely." Pipeline and Hazardous Materials Safety Administration. Washington DC. http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Transporting_Infectious_Substances_brochure.pdf (accessed October 15, 2009).

- U.S. Environmental Protection Agency. May 2006. *Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans*. U.S. EPA, Region 5, Emergency Response Branch. Chicago, IL.

- U.S. Environmental Protection Agency. September 2009. *Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events*. National Homeland Security Research Center. Cincinnati, OH. http://www.epa.gov/sam/ (accessed October 9, 2009).

- U.S. Food and Drug Administration, Department of Health and Human Services. http://www.fda.gov/.

- Villena, I., Aubert, D., Gomis, P., Ferte, H., Inglard, J-C., Dinise-Bisiaux, H. Dondon, J-M., Pisano, E., Ortes, N., and Pinon, J-M. 2004. "Evaluation of a Strategy for *Toxoplasma gondii* Oocyst Detection in Water." *Applied and Environmental Microbiology*. 70(7): 4035–4039.

- World Health Organization. 2007 – 2008. "Guidance on Regulations for the Transport of Infectious Substances." WHO/CDC/EPR/2007.2. http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_EPR_2007_2cc.pdf (accessed October 6, 2009).

Attachment A

Sample Collection Information for the Pathogens Listed in SAM Revision 5.0

Attachment A: Sample Collection Information for the Pathogens Listed in SAM

Solid (Soil, Powder) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Bacillus anthracis **[Anthrax]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Public Health Reports. 92(2): 176 – 186
Brucella **spp. [Brucellosis]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Burkholderia mallei **[Glanders][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Burkholderia pseudomallei **[Melioidosis][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Campylobacter jejuni **[Campylobacteriosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 G

Solid (Soil, Powder) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Chlamydophila psittaci **(formerly known as *Chlamydia psittaci*) [Psittacosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Journal of Clinical Microbiology. 38: 10–1093
Coxiella burnetii **[Q-fever][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Escherichia coli **O157:H7[5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
Francisella tularensis **[Tularemia][5]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Solid (Soil, Powder) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Leptospira* spp. (*L. interrogans* serovars: *L. icteroheamorrhagiae, L. autralis, L. balum, L. bataviae, L. sejro, L. pomona*) [Leptospirosis]**	Small, tightly sealed sterile bottle or plastic bag. A small amount of sterile deionized water may be added to prevent drying.	A small amount of sterile deionized water should be present in container to prevent drying. Room temperature within 72 hours of collection; if longer, keep on ice packs (or secure double-bagged ice).	10 – 20 g	Minimize transport and storage time. If possible, analyze sample within 72 hours of collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 I
***Listeria monocytogenes* [Listeriosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice). If sample is already frozen, do not thaw until analysis.	At least 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 FDA/Bacteriological Analytical Manual, Ch. 1 & 10, 2003
Non-typhoidal *Salmonella* [Salmonellosis][5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
***Salmonella* Typhi [Typhoid fever][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060

Solid (Soil, Powder) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Shigella* spp. [Shigellosis][5]**	Sterile plastic bags or glass or plastic bottles	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Process samples as soon as possible after collection	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substancess DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Standard Methods 9060 and 9260 E
***Staphylococcus aureus* [5]**	Sterile, leakproof container	Keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laborator.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
***Vibrio cholerae* 01 and O139 [Cholera][5]**	Sterile, leakproof container	Store at room temperature. Do not ship on ice.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Current Protocols in Microbiology Chapter 6: 6A.5.1 – 6A.5.38
***Yersinia pestis* [Plague][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Solid (Soil, Powder) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Adenoviruses: Enteric and non-enteric (A-F)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Astroviruses[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Norovirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Sapovirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Solid (Soil, Powder) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Coronaviruses: SARS-associated human coronavirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Hepatitis E virus (HEV)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Influenza H5N1 virus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Picornaviruses: Enteroviruses[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006; USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Solid (Soil, Powder) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Picornaviruses: Hepatitis A virus (HAV)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Reoviruses: Rotavirus (Group A)	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Solid (Soil, Powder) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Cryptosporidium* spp. [Cryptosporidiosis]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	50 – 100 g	Samples must be shipped via overnight service on the day they are collected. Sample processing should be completed as soon as possible by the lab. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001

Solid (Soil, Powder) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Entamoeba histolytica*[5]**	Sterile, sealed, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	50 – 100 g	Transport specimen as soon as possible. If transport is delayed over one hour, refrigerate specimen.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001
***Giardia* spp. [Giardiasis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	50 – 100 g	Samples must be shipped via overnight service on the day they are collected. Sample processing should be completed as soon as possible by the lab. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1623, EPA-821-R-01-026, 2001
***Toxoplasma gondii* [Toxoplasmosis][5]**	Sterile, sealed, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	50 – 100 g	Transport specimen as soon as possible. If transport is delayed over one hour, refrigerate specimen.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001
Solid (Soil, Powder) — Helminthes							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Baylisascaris procyonis* [Raccoon roundworm infection]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice). Store at 2 – 5°C at laboratory; do not freeze samples.	300 – 600 g	Ship to laboratory for analysis within 24 hours of sample collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely Environmental Regulations and Technology: Control of Pathogens and Vector Attraction in Sewage Sludge, Appendix I (2003). EPA/625/R92/013

Particulate (Swab, Wipe, Dust Socks) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Bacillus anthracis **[Anthrax]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Brucella **spp. [Brucellosis][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Burkholderia mallei **[Glanders][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Burkholderia pseudomallei **[Melioidosis][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Particulate (Swab, Wipe, Dust Socks) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Campylobacter jejuni **[Campylobacteriosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B
Chlamydophila psittaci **(formerly known as *Chlamydia psittaci*) [Psittacosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Journal of Clinical Microbiology. 38: 10–1093
Coxiella burnetii **[Q-fever][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Escherichia coli O157:H7 **[5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
Francisella tularensis **[Tularemia][5]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Particulate (Swab, Wipe, Dust Socks) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Leptospira* spp. (*L. interrogans* serovars: *L. icteroheamorrhagiae, L. autralis, L. balum, L. bataviae, L. sejro, L. pomona*) [Leptospirosis][5]**	Sterile, leakproof container. A small amount of sterile deionized water may be added to prevent drying.	A small amount of sterile deionized water should be present in container to prevent drying. Ambient temperature within 72 hours of collection; if longer, keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If possible analyze sample within 72 hours of collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B
***Listeria monocytogenes* [Listeriosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice). If sample is frozen, do not thaw until analysis.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 FDA/Bacteriological Analytical Manual, Ch. 1 & 10, 2003
Non-typhoidal *Salmonella* [Salmonellosis]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B
***Salmonella* Typhi [Typhoid Fever][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B
***Shigella* spp. [Shigellosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Process samples as soon as possible after collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B

Particulate (Swab, Wipe, Dust Socks) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Staphylococcus aureus **[5]**	Sterile, leakproof container	Keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 B
Vibrio cholerae **01 and O139 [Cholera][5]**	Sterile, leakproof container	Store at room temperature. Do not ship on ice.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Current Protocols in Microbiology Chapter 6: 6A.5.1 – 6A.5.38
Yersinia pestis **[Plague][5]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Particulate (Swab, Wipe, Dust Socks) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Adenoviruses: Enteric and non-enteric (A-F)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Astroviruses[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Particulate (Swab, Wipe, Dust Socks) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Caliciviruses: Norovirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Sapovirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Coronaviruses: SARS-associated human coronavirus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Hepatitis E virus (HEV)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Influenza H5N1 virus[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Particulate (Swab, Wipe, Dust Socks) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Picornaviruses: Enteroviruses[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Picornaviruses: Hepatitis A virus (HAV)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Reoviruses: Rotavirus (Group A)[5]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Particulate (Swab, Wipe, Dust Socks) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Cryptosporidium* spp. [Cryptosporidiosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Samples must be shipped via overnight service on the day they are collected. Sample processing should be completed as soon as possible. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001

Particulate (Swab, Wipe, Dust Socks) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Entamoeba histolytica **[5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Transport specimen as soon as possible. If transport is delayed over one hour, refrigerate specimen.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001
Giardia **spp. [Giardiasis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Samples must be shipped via overnight service on the day they are collected. Sample processing should be completed as soon as possible. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1623, EPA-821-R-01-026, 2001
Toxoplasma gondii **[Toxoplasmosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Transport sample as soon as possible. If transport is delayed over one hour, refrigerate sample.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1622 and 1623, EPA-821-R-01-026, 2001
Particulate (swab, wipe, dust socks) — Helminthes							
Analyte(s)	**Container**	**Preservation**	**Sample Size**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Baylisascaris procyonis **[5] [Raccoon roundworm inffection]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice). Store at 2 – 5°C at laboratory. Do not freeze samples.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Ship to laboratory for analysis within 24 hours of sample collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Environmental Regulations and Technology: Control of Pathogens and Vector Attraction in Sewage Sludge, Appendix I (2003). EPA/625/R92/013

Liquid/Water/Drinking Water[6] (filter, grab) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Bacillus anthracis **[Anthrax]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 200 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Public Health Reports. 92(2): 176 – 186
Brucella **spp. [Brucellosis]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Burkholderia mallei **[Glanders]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Burkholderia pseudomallei **[Melioidosis][5]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Campylobacter jejuni **[Campylobacteriosis]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	1 to several liters; 1 L for turbid waters	Process sample immediately after collection or store and process as soon as possible.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 G

Liquid/Water/Drinking Water[6] (filter, grab) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Chlamydophila psittaci **(formerly known as *Chlamydia psittaci*) [Psittacosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Coxiella burnetii **[Q-fever][5]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Escherichia coli **O157:H7**	Sterile, leakproof container	Keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
Francisella tularensis **[Tularemia]**	Sterile, leakproof container	Room temperature if held for 1 hour or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Liquid/Water/Drinking Water[6] (filter, grab) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Leptospira* spp. (*L. interrogans* serovars: *L. icteroheamorrhagiae, L. autralis, L. balum, L. bataviae, L. sejro, L. pomona*) [Leptospirosis]**	Sterile, leakproof container	A small amount of sterile deionized water should be present in container to prevent drying. Ambient temperature within 72 hours of collection; if longer, keep on ice packs (or secure double-bagged ice).	100 mL to 1 L; multiple samples are usually required; agitate water to bring sediment to surface to collect	If possible, analyze sample within 72 hours of collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 I
***Listeria monocytogenes* [Listeriosis][5]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice). If sample is already frozen do not thaw until analysis.	50 – 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 FDA/Bacteriological Analytical Manual, Ch. 1 & 10, 2003
Non-typhoidal *Salmonella* [Salmonellosis]	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	Cheese cloth swab; or 2 L water for diatomaceous earth filter, 20 L for borosilicate glass filtration, or at least 1 L for membrane filtration	Maximum transport and storage time allowable is 6 hours.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 B
***Salmonella* Typhi [Typhoid fever]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	Cheese cloth swab; or 2 L water for diatomaceous earth filter, 20 L for borosilicate glass filtration, or at least 1 L for membrane filtration	Maximum transport and storage time allowable is 6 hours.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 B

Liquid/Water/Drinking Water[6] (filter, grab) — Bacteria							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Shigella* spp. [Shigellosis]**	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	1 L	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 E
Staphylococcus aureus	Sterile, leakproof container	Keep on ice packs (or secure double-bagged ice).	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9213 B
***Vibrio cholerae* 01 and O139 [Cholera]**	Sterile, leakproof container	Store at room temperature. Do not ship on ice.	Moore swab, or a minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Current Protocols in Microbiology Chapter 6: 6A.5.1 – 6A.5.38
***Yersinia pestis* [Plague]**	Sterile, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006

Liquid/Water/Drinking Water[6] (filter, grab) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Adenoviruses: Enteric and non-enteric (A-F)[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Astroviruses[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water Filter apparatus should be allowed to run overnight.	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Norovirus[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Sapovirus[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Liquid/Water/Drinking Water[6] (filter, grab) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Coronaviruses: SARS-associated human coronavirus[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water	Filters should be eluted within 24 hours of start of the sample collection, and must be eluted within 72 hours of start of the sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Hepatitis E virus (HEV)[5]	Double layer 142 mm diameter 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	10 L surface water 1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L recreational water[3]	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of start of the sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Influenza H5N1 virus[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Picornaviruses: Enteroviruses[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water Filter apparatus should be allowed to run overnight	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of start of the sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Applied and Environmental MIcrobiology. 69(6): 3158 – 3164 USEPA Manual of Methods for Virology, Ch. 14, 2006

Liquid/Water/Drinking Water[6] (filter, grab) — Viruses							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Picornaviruses: Hepatitis A virus (HAV)[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water Filter apparatus should be allowed to run overnight	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Applied and Environmental MIcrobiology. 69(6): 3158-3164 USEPA Manual of Methods for Virology, Ch. 14, 2006
Reoviruses: Rotavirus (Group A)[5]	Positively charged 1MDS cartridge filter	Keep on ice packs (or secure double-bagged ice).	1500 – 2000 L drinking water/ ground water; 2 – 20 L wastewater; 200 – 300 L surface/ recreational water Filter apparatus should be allowed to run overnight	Filters should be eluted within 24 hours of the start of sample collection, and must be eluted within 72 hours of the start of sample collection.	Triple packaging consisting of: (1) Cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Applied and Environmental MIcrobiology. 69(6): 3158–3164 (Culture) Journal of Virological Methods. 155(2): 126–131(PCR) USEPA Manual of Methods for Virology, Ch. 14, 2006
Liquid/Water/Drinking Water[6] (filter, grab) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Cryptosporidium* spp. [Cryptosporidiosis]**	Sterile leakproof containers OR Filter in sterile leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	10 – 15 L	Samples must be shipped via overnight service on the day of collection. Sample processing should be completed as soon as possible. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1623, EPA-821-R-01-026, 2001

Liquid/Water/Drinking Water[6] (filter, grab) — Protozoa							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Entamoeba histolytica **[5]**	Polypropylene barrels	Keep on ice packs (or secure double-bagged ice); do not freeze.	100 L into ten 10 L containers	Samples must be shipped via overnight service on the day of collection. Sample processing should be completed as soon as possible.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents; or cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Applied and Environmental Microbiology. 70(7): 4035–4039
Giardia **spp. [Giardiasis]**	Polypropylene barrels OR Filter in sterile leakproof container	Keep on ice packs (or secure double-bagged ice); do not freeze.	100 L into ten 10 L containers OR Up to 1000 L through filter cartridge	Samples must be shipped via overnight service on the day of collection. Sample processing should be completed as soon as possible. Sample elution must be initiated within 96 hours of sample collection or filtration.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents; or cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Method 1623, EPA-821-R-01-026, 2001 Applied and Environmental Microbiology. 70(7): 4035–4039
Toxoplasma gondii **[Toxoplasmosis][5]**	Sterile leakproof containers OR Filter in sterile leakproof container OR Polypropylene barrels	Keep on ice packs (or secure double-bagged ice); do not freeze.	100 L into ten 10 L containers OR 4650 L for filter cartridge	Samples must be shipped via overnight service on the day of collection. Sample processing should be completed as soon as possible.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents; or cover ends of filter module with aluminum foil and place in labeled, sealed, decontaminated, leakproof primary sample container (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper, and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Applied and Environmental Microbiology. 70(7): 4035–4039 Emerging Infectious Diseases. 12(2): 326–329

Liquid/Water/Drinking Water[6] (filter, grab) — Helminthes							
Analyte(s)	**Container**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Baylisascaris procyonis **[Raccoon roundworm infection][5]**	Sterile leakproof container	Keep on ice packs (or secure double-bagged ice). Store at 2 – 5°C at laboratory. Do not freeze samples.	At least 1 L	Ship to laboratory for analysis within 24 hours of sample collection.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Environmental Regulations and Technology: Control of Pathogens and Vector Attraction in Sewage Sludge, Appendix I (2003). EPA/625/R92/013

Aerosol (Growth Media, Filter, Liquid) — Bacteria							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Bacillus anthracis **[Anthrax]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient. (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Brucella **spp. [Brucellosis]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 15 minutes or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Burkholderia mallei **[Glanders][5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 15 minutes or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Burkholderia pseudomallei **[Melioidosis][5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 15 minutes or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006

Aerosol (Growth Media, Filter, Liquid) — Bacteria							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Campylobacter jejuni **[Campylobacteriosis]** Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger	Keep on ice (e.g., ice packs, secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 2060
Chlamydophila psittaci **(formerly known as *Chlamydia psittaci*) [Psittacosis][5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Coxiella burnetii **[Q-fever][5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 15 minutes or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Escherichia coli **O157:H7** Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice (e.g., ice packs, secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container, wrapped with enough absorbent material to absorb contents (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060

Aerosol (Growth Media, Filter, Liquid) — Bacteria							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Francisella tularensis **[Tularemia]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, May 2006
Leptospira **spp. (*L. interrogans* serovars: *L. icteroheamorrhagiae, L. autralis, L. balum, L. bataviae, L. sejro, L. pomona*) [Leptospirosis]** Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice (e.g., ice packs, secure double-bagged ice) .	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060 and 9260 I
Listeria monocytogenes **[Listeriosis][5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice). If sample is already frozen do not thaw until analysis.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 FDA/Bacteriological Analytical Manual, Ch. 10, 2003
Non-typhoidal *Salmonella* [Salmonellosis] Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 15 minutes or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060

Aerosol (Growth Media, Filter, Liquid) — Bacteria							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Salmonella* Typhi [Typhoid fever]** Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice (e.g., ice packs, secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
Shigella spp. [Shigellosis] Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice (e.g., ice packs, secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
***Staphylococcus aureus*[5]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice (e.g., ice packs, secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Standard Methods 9060
***Vibrio cholerae* 01 and O139 [Cholera]** Unlikely to be viable — samples should be collected only for PCR analyses	Sterile MCE/PTFE filter([8], gel filter, impinger, and/or impactor (agar plate)	Store at room temperature. Do not ship on ice.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 Current Protocols in Microbiology Chapter 6: 6A.5.1 – 6A.5.38

Aerosol (Growth Media, Filter, Liquid) — Bacteria							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
***Yersinia pestis* [Plague]**	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Aerosol (growth media, filter, liquid) — Viruses							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Adenoviruses: Enteric and non-enteric (A-F)[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Astroviruses[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Caliciviruses: Norovirus[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Aerosol (growth media, filter, liquid) — Viruses							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Caliciviruses: Sapovirus[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Coronaviruses: SARS-associated human coronavirus[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Hepatitis E virus (HEV)[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Influenza H5N1 virus[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006

Aerosol (Growth Media, Filter, Liquid) — Viruses							
Analyte(s)	**Sampling Device/Medium**	**Preservation**	**Sample Size[1]**	**Holding Time**	**Packaging Requirements[2]**	**Shipping Label[3]**	**Source/SAM Method[4]**
Picornaviruses: Enteroviruses[5]	Sterile MCE/PTFE filter([8]), gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Picornaviruses: Hepatitis A virus (HAV)[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Reoviruses: Rotavirus (Group A)[5]	Sterile MCE/PTFE filter[8], gel filter, impinger, and/or impactor (agar plate)	Keep on ice packs (or secure double-bagged ice).	Depends on method: 120 – 960 L for MCE/PTFE filter; 40 – 135 L for gel filter; 750 – 6000 L for impinger[7]; or 84.9 – 849 L for impactor	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Triple packaging consisting of: (1) Labeled, sealed, decontaminated, leakproof primary sample container. Place sealed agar plates in primary container and ship upside down. For gel filters, add 10 mL sterile distilled water to container to prevent desiccation. (2) Leakproof secondary container (capable of withstanding an internal pressure of 14 psi if shipped by air) with list of contents, shipper, and recipient (3) Rigid outer packaging	Label outer packaging with: (1) Biological Substance, Category B (2) Full name and address of shipper and recipient (3) Name and telephone number of responsible person (shipper) Attach diamond-shaped UN# 3373 label	49 CFR 173.199, Category B - Infectious Substances DOT, PHMSA, Transporting Infectious Substances Safely, 2006 USEPA Manual of Methods for Virology, Ch. 14, 2006
Aerosol (Growth Media, Filter, Liquid) — Protozoa							
***Cryptosporidium* spp. [Cryptosporidiosis]**	Unlikely to be found						
Entamoeba histolytica	Unlikely to be found						
***Giardia* spp. [Giardiasis]**	Unlikely to be found						
***Toxoplasma gondii* [Toxoplasmosis]**	Unlikely to be found						
Aerosol (Growth Media, Filter, Liquid) — Helminthes							
***Baylisascaris procyonis* [Raccoon roundworm infection]**	Unlikely to be found						

Footnotes:

(1) The sample sizes listed are based on the amount needed for analysis of a single sample. If requested by the laboratory, additional sample(s) must be collected for laboratory qualitiy control analyses (e.g., duplicates, matrix spikes). It is also recommended that additional sample(s) be collected in case of the need for reanalysis due to sample spillage or unforseen analytical difficulties.

(2) Sample transport containers are packed outside the contaminated area. Samples must be packed in a manner that protects the integrity of the sample containers and provides temperature conditions required for sample preservation. Primary receptables should be leakproof with a volumetric capacity of not more than 500 mL (liquid) or 4 kilograms (solid). If several individual primary containers are placed in a single secondary packaging, they must be individually wrapped or separated so as to prevent contact between them. Secondary packaging should be leakproof and surrounded by shock- and water-absorbent packing materials or ice (if required for preservation) and shipped in a cooler to ensure sample temperatures do not exceed preservation requirements. Ice should be placed in separate plastic bags or cold packs should be used to avoid leakage, and the bags placed around, among, and on top of the secondary sample containers. Further guidance can be obtained from 49 CFR 173.199 (http://edocket.access.gpo.gov/cfr_2002/octqtr/pdf/49cfr173.199.pdf) and 42 CFR 72 and 73 (http://oig.hhs.gov/authorities/docs/05/032905FRselectagents.pdf).

(3) U.S. DOT and IATA labeling requirements apply to materials that are known to contain, or are suspected of containing, an infectious substance and reflect the most recent changes, effective October 1, 2006. Further guidance on these changes and lists of substances considered to be either category A (not listed in this document) or category B can be obtained from DOT, PHMSA at http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Transporting_Infectious_Substances_brochure.pdf. Definitions and exceptions for Class 6, Division 6.2 infectious substances are described in 49 CFR 173.134.

(4) SAM methods listed in this column can be located using U.S. Environmental Protection Agency, National Homeland Security Research Center (NHSRC), Standardized Analytical Methods for Environmental Restoration following Homeland Security Events, Revision 5.0, September 2009 (www.epa.gov/sam/).

(5) Currently, no information is available for this analyte in this sample type. Until such time that analye-specific information is available, collection procedures described for a similar analyte/sample type are considered to be appropriate.

(6) For collection of aqueous samples containing residual chlorine, add a stock solution of filter-sterilized 10% sodium thiosulfate at 0.5 mL/L.

(7) If using impingers that do not replenish the liquid as it is evaporated by the air stream, the maximum recommended sampling volume is 200 L (Applied and Environmental Microbiology, Duchaine et al, 2001, 67(6): 2775-2780).

(8) MCE and PTFE filters are available as cassettes.

Attachment B

Sample Collection Information for the Biotoxin Analytes Listed in SAM Revision 5.0

Attachment B: Sample Collection Information for the Biotoxin Analytes Listed in SAM

Aerosol (Filter/Cassette)[1] — Protein							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Abrin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Botulinum neurotoxins (Serotoypes A, B, E, F)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at negative (-) 20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Ricin[5] **(Ricinine: ricin marker)**	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group III	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Shiga and Shiga-like Toxins (Stx, Stx-1, Stx-2)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Aerosol (Filter/Cassette)[1] — Protein							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Staphylococcal enterotoxins (SEB)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Staphylococcal enterotoxins (SEA, SEC)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Aerosol (Filter/Cassette)[1] — Small Molecule							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Aflatoxin (Type B1)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Amanitin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store in the dark at -20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Aerosol (Filter/Cassette)[1] — Small Molecule							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Anatoxin-a[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Brevetoxins (B form)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at -20 °C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxic solids, organic, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Conotoxin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at -20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Cylindrospermopsin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at negative (-) 20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Aerosol (Filter/Cassette)[1] — Small Molecule							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Diacetoxyscirpenol (DAS)[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Microcystin Isoforms: LA, LR, YR, LW, RR, YR[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at negative (-) 20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Picrotoxin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store in the dark on ice packs (or secure double-bagged ice).	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Saxitoxins[5] Isoforms: Saxitoxin (STX), Neosaxitoxin (NEOSTX), Gonyautoxin (GTX), Decarbamoylgonyautoxin (dcGTX), Decarbamoylsaxitoxin (dcSTX)	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at negative (-) 20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Aerosol (Filter/Cassette)[1] — Small Molecule							
Analyte(s)	**Sampling Device/ Medium**	**Preservation**	**Sample Size[2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
T-2 Mycotoxin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Ship and store at negative (-) 20°C.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I Aircraft: cargo only	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Tetrodotoxin[5]	Sterile MCE or PTFE filter. Place the filter in a sterile leakproof container and seal.	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	120 – 960 L for MCE or PTFE filter	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Solid (Soil, Powder) — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [(2)]**	**Holding Time**	**Packaging**	**Shipping Label[(3)]**	**Source/SAM Method[(4)]**
Abrin[(5)]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Botulinum neurotoxins (Serotoypes A, B, E, F)[(5)]	Sterile, sealed, leakproof container	Ship and store at -20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) U.S. FDA, Bacteriological Analytical Manual Online, Ch. 17, 2001
Ricin[(5)] **(Ricinine: ricin marker)**	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group III	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Shiga and Shiga-like Toxins (Stx, Stx-1, Stx-2)[(5)]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Solid (Soil, Powder) — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Staphylococcal enterotoxins (SEB)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Staphylococcal enterotoxins (SEA, SEC)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Solid (Soil, Powder) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Aflatoxin (Type B1)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Amanitin[5]	Sterile, sealed, leakproof container	Ship and store in the dark at -20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Solid (Soil, Powder) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Anatoxin-a[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Brevetoxins (B form)[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxic solids, organic, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Conotoxin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Cylindrospermopsin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Solid (Soil, Powder) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Diacetoxyscirpenol (DAS)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Microcystin Isoforms: LA, LR, YR, LW, RR, YR[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Picrotoxin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Saxitoxins[5] Isoforms: Saxitoxin (STX), Neosaxitoxin (NEOSTX), Gonyautoxin (GTX), Decarbamoylgonyautoxin (dcGTX), Decarbamoylsaxitoxin (dcSTX)	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Solid (Soil, Powder) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
T-2 Mycotoxin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I Aircraft: cargo only	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Tetrodotoxin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	50 – 100 g	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Particulate (Swabs, Wipes, Dust Socks) — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Abrin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Botulinum neurotoxins (Serotoypes A, B, E, F)[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) U.S. FDA, Bacteriological Analytical Manual Online, Ch. 17, 2001
Ricin[5] **(Ricinine: ricin marker)**	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group III	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Shiga and Shiga-like Toxins (Stx, Stx-1, Stx-2)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Particulate (Swabs, Wipes, Dust Socks) — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Staphylococcal enterotoxins (SEB)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Staphylococcal enterotoxins (SEA, SEC)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009) 993.06 (AOAC)
Particulate (Swabs, Wipes, Dust Sock) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Aflatoxin (Type B1)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Amanitin[5]	Sterile, sealed, leakproof container	Ship and store in the dark at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Particulate (Swabs, Wipes, Dust Sock) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Anatoxin-a[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Brevetoxins (B form)[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxic solids, organic, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Conotoxin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Cylindrospermopsin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Particulate (Swabs, Wipes, Dust Sock) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Diacetoxyscirpenol (DAS)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Microcystin Isoforms: LA, LR, YR, LW, RR, YR[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 2811	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Picrotoxin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Saxitoxins[5] Isoforms: Saxitoxin (STX), Neosaxitoxin (NEOSTX), Gonyautoxin (GTX), Decarbamoylgonyautoxin (dcGTX), Decarbamoylsaxitoxin (dcSTX)	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Particulate (Swabs, Wipes, Dust Sock) — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [(2)]**	**Holding Time**	**Packaging**	**Shipping Label[(3)]**	**Source/SAM Method[(4)]**
T-2 Mycotoxin[(5)]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I Aircraft: cargo only	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Tetrodotoxin[(5)]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	At least 2 sterile, synthetic, and moistened wipes or swabs, or dust socks	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.211 – 213, Non-bulk Packaging for Solid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Liquid/Drinking Water[8] — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Abrin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006
Botulinum neurotoxins (Serotoypes A, B, E, F)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 U.S. FDA, Bacteriological Analytical Manual Online, Ch. 17 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Ricin[5] **(Ricinine: ricin marker)**	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group III	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Shiga and Shiga-like Toxins (Stx, Stx-1, Stx-2)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Liquid/Drinking Water[8] — Protein							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Staphylococcal enterotoxins (SEB)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Staphylococcal enterotoxins (SEA, SEC)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Liquid/Drinking Water[8] — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Aflatoxin (Type B1)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Amanitin[5]	Sterile, sealed, leakproof container	Ship and store at -20°C in the dark.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Liquid/Drinking Water[8] — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Anatoxin-a[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 10 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6).	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 2811	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Brevetoxins (B form)[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxic solids, organic, n.o.s." AND UN# 2811	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
α-Conotoxin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Cylindrospermopsin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnote (6).	This substance is considered to be non-hazardous for transport.	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Liquid/Drinking Water[8] — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
Diacetoxyscirpenol (DAS)[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Microcystin Isoforms: LA, LR, YR, LW, RR, YR[5]	2.5 L glass bottles	Ship on ice packs (or secure double-bagged ice); use immediately.	2 L	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 2811	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Picrotoxin[5]	Sterile, sealed, leakproof container	Ship and store in the dark on ice packs (or secure double-bagged ice).	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group II	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Saxitoxins[5] Isoforms: Saxitoxin (STX), Neosaxitoxin (NEOSTX), Gonyautoxin (GTX), Decarbamoylgonyautoxin (dcGTX), Decarbamoylsaxitoxin (dcSTX)	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, liquid, n.o.s." AND UN# 3172	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Liquid/Drinking Water[8] — Small Molecule							
Analyte(s)	**Container**	**Preservation**	**Sample Size [2]**	**Holding Time**	**Packaging**	**Shipping Label[3]**	**Source/SAM Method[4]**
T-2 Mycotoxin[5]	Sterile, sealed, leakproof container	Ship and store at negative (-) 20°C.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I Aircraft: cargo only	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)
Tetrodotoxin[5]	Sterile, sealed, leakproof container	Room temperature if held for 2 hours or less; keep on ice (e.g., ice packs, secure double-bagged ice) if longer.	A minimum of 100 mL	Minimize transport and storage time. If feasible, analyze or extract immediately upon receipt at the laboratory.	Decontaminate and label the exterior of the container. Place in a cooler and package the samples outside the contaminated area as described in Footnotes (7) and (6). Belongs to Packing Group I	Label outer package with the proper shipping name: "Toxins, extracted from living sources, solid, n.o.s." AND UN# 3462	49 CFR 173.201 – 203, Non-bulk Packaging for Liquid Hazardous Materials USEPA, Draft Environmental Sampling Guidelines and Analytical Approach for Biological Response Plans, 2006 Sigma-Aldrich Chemical Co., St. Louis, MO, Material Safety Data Sheet http://www.sigmaaldrich.com/safety-center.html (accessed September 12, 2009)

Footnotes:

(1) MCE and PTFE filters are also available as cassettes.

(2) The sample sizes listed are based on the amount needed for analysis of a single sample. If requested by the laboratory, additional sample(s) must be collected for laboratory qualitiy control analyses (e.g., duplicates, matrix spikes). It is also recommended that additional sample(s) be collected in case of the need for reanalysis due to sample spillage or unforseen analytical difficulties.

(3) The exterior of the package must be labeled with the proper shipping name and the UN Number (49 CFR 172.301). For packages meeting the small quantity exception (49 CFR 173.153), label the exterior of the package as follows: "This package conforms to 49 CFR 173.4." No other hazard labeling is required. Packaging must meet the minimum standards as described in 49 CFR 173.4. Environmental samples meet the small quantities exception for Division 6.1 (poisonous) materials if: (1) The maximum quantity of material per inner receptacle or article is limited to—(i) Thirty (30) mL (1 ounce) for authorized liquids, other than Division 6.1, Packing Group I, Hazard Zone A or B materials; (ii) Thirty (30) g (1 ounce) for authorized solid materials; (iii) One (1) g (0.04 ounce) for authorized materials meeting the definition of a Division 6.1, Packing Group I, Hazard Zone A or B material. Environmental samples sufficiently diluted so as to no longer meet the standards of a poisonous material (49 CFR 173.132, Class 6, Division 6.1 – Definitions) do not require hazard labeling. For packages using dry ice to maintain temperature preservation requirements, attach a dry ice label to the exterior of the packaging, inform the shipper of the weight of the dry ice, and the name and address of the shipper and recipient.

(4) SAM methods listed in this column can be located using U.S. Environmental Protection Agency, National Homeland Security Research Center (NHSRC), Standardized Analytical Methods for Environmental Restoration Following Homeland Security Events, Revision 5.0, September 2009 (www.epa.gov/sam/).

(5) Currently, no information is available for this analyte in this sample type. Until such time that analye-specific information is available, collection procedures described for a similar analyte/sample type are considered to be appropriate.

(6) Sample transport containers are packed outside the contaminated area. Samples must be packed in a manner that protects the integrity of the sample containers and provides temperature conditions required for sample preservation. Samples should be surrounded by shock- and enough water-absorbent packing material to absorb sample contents. If required for preservation, samples should be surrounded by ice or dry ice in a cooler to ensure sample temperatures do not exceed temperature requirements. Ice should be placed in separate plastic bags or cold packs should be used to avoid leakage, and the bags placed around, among, and on top of the sample containers. If dry ice is used, the outer packaging must be appropriately labeled (Footnote (3)).

(7) Hazardous substances belonging to Class 6, Division 6.1 are packaged according to Packing Groups. Specifications for the non-bulk packaging for Packing Groups I, II, and III are found at 49 CFR 173.201 – 173.203 for liquids, and at 173.211 – 173.213 for solids For samples meeting the small quantities exception, packaging must meet the minimum standards as described in 49 CFR 173.4.

(8) For collection of aqueous samples containing chlorine residual, add a stock solution of filter-sterilized 10% sodium thiosulfate at 0.5 mL/L.

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