

Shipping and Receiving Biological Materials

Including Specimens and Infectious Agents

Introduction

Many clinicians and researchers send and/or receive specimens, infectious agents and other biological materials through the mail or by courier service (e.g. Fed Ex, UPS). Some researchers carry biological materials to and from conferences or meetings. These activities are strictly regulated by a number of agencies, and the penalties for non-compliance are significant. For example, individuals can be fined \$250,000 and jailed for a year; organizations can be fined \$500,000 per incident.

Purpose

Anyone shipping or receiving potentially hazardous materials is required to have training in the general requirements of the regulations. This study guide is designed to cover the requirements for shipping and receiving potentially hazardous biological materials and provides instructions on how to properly transport these materials. If you need to transport non-biological hazardous materials please contact EHS at 292-1284.

Objectives

Personnel who complete this self-learning packet will be familiar with:

1. How to identify materials for shipping
2. The proper way to pack specimens
3. Labeling requirements
4. How to fill out the paperwork that must accompany all shipments traveling by air

**For additional information or questions, please contact College Safety Office
614 292-3419 or via email - smith.115@osu.edu**

Shipping and Receiving Biological Materials Including Specimens and Infectious Agents

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Shipping and Receiving Biological Materials

Including Specimens and Infectious Agents

1. Introduction

Biological materials must be properly identified and packaged for shipping. Before a package is sent out you must consider the hazards that would occur if the package were to be damaged during transport, including the possible release and aerosolization of the specimen if the package were crushed. ***It is your responsibility to ensure correct identification, classification, packaging, labeling, marking and documentation of all shipments of potentially hazardous biological materials.***

It is against the law to carry infectious/hazardous materials on an airplane. For example, if you visit another lab and want to take an infectious substance back to your lab, you CANNOT carry that sample on an airplane. It must be shipped by some other means like FedEx or UPS.

Advance arrangements must be made with the recipient and carrier when shipping infectious/hazardous materials, and permits obtained when importing infectious substances from foreign countries. *Failure to comply with federal and international regulations can result in refusal of the shipment by the airline, penalties of fines, and/or jail.*

This training manual will guide you through the steps of how to ship biological materials. The regulations are updated frequently so it is necessary to repeat the training every two years to keep up to date on changes.

2. Who Regulates the Transport of Biological Materials?

Several agencies regulate the shipping of biological and hazardous materials. The regulations are designed to protect those outside the institution who may come into contact with the package or be exposed to the specimen in the event of an accident. This includes the shipper, carriers, the public and the environment.

Some of the key agencies and regulations are listed below. A more detailed listing is included in Appendix 1.

- The International Air Transport Association (IATA) Dangerous Goods Regulations apply to shipments of infectious and hazardous substances via international and domestic air transportation. Currently, IATA has the most stringent requirements for transportation of infectious substances.
- US Department of Transportation (DOT) Hazardous Material Regulations regulate the domestic transport of infectious and hazardous substances.
- United States Public Health Service (PHS) Interstate Transport of Etiologic Agents regulates domestic transport of infectious agents and *Foreign Quarantine: Etiologic Agents, Hosts and Vectors* regulates the importation of infectious substances from foreign countries:
- United States Postal Service (USPS) Domestic Mail Manual; Etiologic Preparations covers all shipments made through the US Postal Service.

- Occupational Safety and Health Administration *Bloodborne Pathogens* provides minimal packaging and labeling requirements for the transport of blood and body fluids.

3. How Do I Know If My Shipment Is Regulated?

If you intend to transport biological materials you should begin by determining which of the following categories best describes your shipment. Shipments of each of the categories listed below are regulated with the exception of Nonrestricted Specimens.

- **Infectious Substance** - This category is used for substances known to contain, or reasonably expected to contain, pathogens that are known or reasonably expected to cause disease in humans or animals. This includes:
 - a) Microorganisms (including bacteria, viruses, rickettsia, parasites, fungi)
 - b) Genetically modified (recombinant) microorganisms, hybrid or mutant
 - c) Specimens transported for initial or confirmatory testing for the presence of pathogens
 - d) Samples from a patient with an unknown disease
- **Diagnostic Specimens** have a relatively low probability of containing pathogens. When specimens are transported/shipped for the purpose of routine screening tests, investigational purposes, or diagnostic purposes for other than the presence of pathogens, they should be packaged and shipped as diagnostic specimens. This includes human and animal material not classified as infectious substances.
- **Nonrestricted Specimens** are specimens known not to contain pathogens. Only specimens that have been proven by testing not to contain pathogens can fall within this category. These specimens are not regulated and do not need to follow the packaging and labeling requirements described below.
- **Toxic Chemical** - This category includes toxins from plant, animal or bacterial sources, which do not contain any infectious substances and toxins that are contained in substances that are not infectious substances. Shipping and receiving of substances in this category are not covered in this training. If you will be shipping or receiving these substances contact Environmental Services for guidance.
- **Hazardous Material** - This is a broad category including dry ice and genetically modified microorganisms that do not meet the definition of infectious substances but are capable of "altering animals, plants, or microbiological substances in a way that is not normally the result of natural reproduction." With the exception of the materials noted here, the shipment of hazardous materials is not covered in this training. If you think you will be shipping hazardous materials, please contact Environmental Services for instruction.

Note: Genetically modified organisms and animals that contain them that are known or suspected of being dangerous to humans, animals or the environment **must not** be transported by air unless they are exempted by the States concerned under the provisions of 2.6.1 of the IATA *Dangerous Goods Regulations*. Please contact Environmental Services if you need to ship these specimens.

4. What Quantities Can Be Shipped?

There are no exemptions for small amounts of infectious substances. When you ship an infectious substance or diagnostic specimen by **passenger** airline or the United States Postal Service, the *total* amount in any triple package (described below) that can be transported cannot exceed 50 ml or 50 grams.

When shipped by **cargo** airline, the *total* quantity per triple package cannot exceed 4 liters or 4 kg, and the package must have the label seen here displayed on the outer packaging.



Exception: There are special quantity limits for the following items only, as long as they are not contaminated with a disease that is readily transmitted and for which there is no current treatment. 1) Body fluids can be shipped at 1 liter per primary container and 4 liters net per package on both passenger and cargo aircraft; 2) There are no quantity limits for body parts, organs, or whole bodies.

5. How Do I Package Materials?

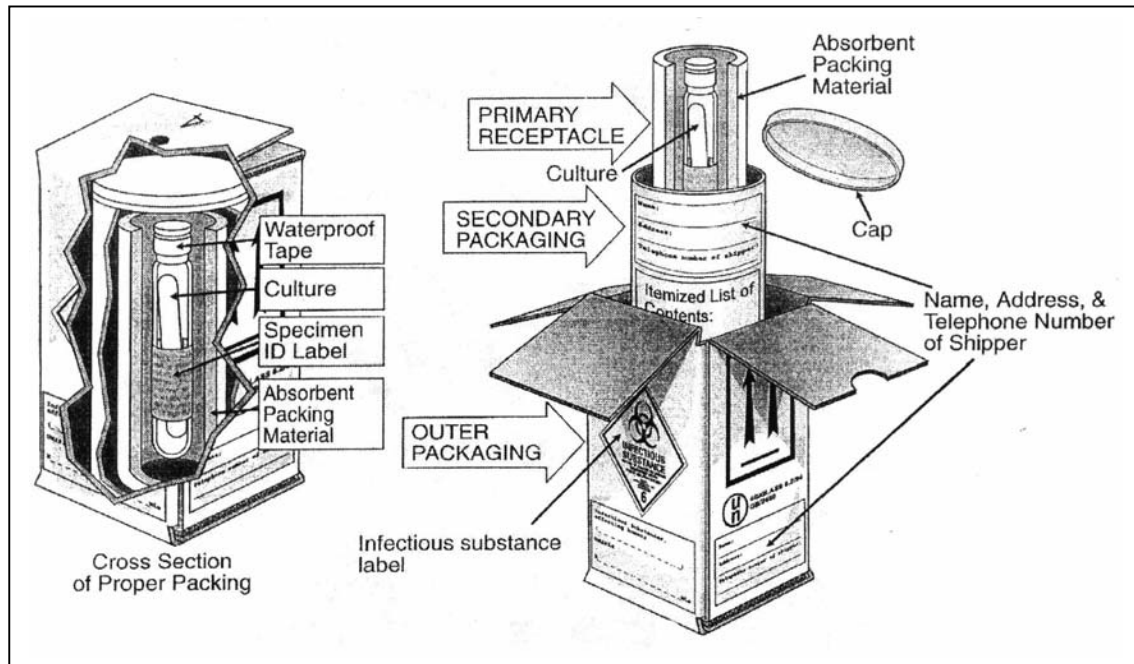
Potentially hazardous biological materials must be packed according to the regulations. They must be packaged to withstand leakage of contents, shocks, temperature and pressure changes and other conditions that can occur during ordinary handling in transportation. Certified containers purchased from commercial suppliers must be used, regardless of the mode of transportation. Appendix 2 lists a number of vendors that supply containers used in infectious material transport. When ordering shipping supplies specify what category of materials you will be shipping: infectious substances, diagnostic specimens, dry ice, regular ice, etc. Different categories have slightly different packaging needs but all follow the basic triple packaging requirements described below.

When you receive your packing materials, follow the instructions and save any testing documentation the company sends. If you are going to reuse packing materials, make sure you use the materials for the purpose they were originally designed.

Figure 1 depicts the principle of **triple packaging** (primary receptacle, watertight secondary packaging, durable outer packaging) upon which all regulations are built. Infectious substances, diagnostic specimens, and genetically modified microorganisms that fall under the category of hazardous materials must be packaged in this way.

Primary Receptacle. The primary receptacle contains the biological material and must be watertight to prevent leakage. The primary receptacle must be labeled with the name of the specimen. Primary receptacles may be made of glass, metal, or plastic and include screw-cap tubes, flame-sealed glass ampules, or rubber-stopped glass vials fitted with metal seals. Petri

Figure 1. Packing and Labeling of Biological Materials



plates cannot be used as primary receptacles. Lyophilized substances can only be shipped in flame sealed glass ampules or rubber stopped glass vials with metal seals. Positive means of ensuring a leakproof seal, such as a heat seal, skirted stopper, or metal crimp seal must be provided. Screw caps may be fastened with tape, shrink seals, or other comparable material. Although glass is allowed, it is preferable to use plastic primary receptacles.

Secondary Packaging. One or more primary receptacles are placed in watertight secondary packaging. The primary receptacle or the secondary packaging must withstand, without leakage, an internal pressure differential and temperature range as described in the United Nations (UN) packaging specifications and performance tests. The secondary packaging should also bear a label with the name, address, and telephone number of the shipper, as well as the name of the specimen.

Absorbent Material. Absorbent material must be placed between the primary receptacle and secondary packaging. Multiple primary receptacles must be individually wrapped to prevent contact between them. The absorbent material must be sufficient to absorb the entire contents of the primary container(s).

Itemized List. An itemized list of contents must be enclosed between the secondary packaging and the outer packaging.

Outer Packaging. Outer packages must be at least 100 mm (4 in) in the smallest overall external dimension in order to bear the required markings and labels. Outer packaging must be of adequate strength for its capacity, mass, and intended use, and must be capable of meeting the rigorous performance tests and be marked with a UN specification mark.

Overpacks. An overpack can be used to combine several **triple packages** into one large package. Each triple package inside the overpack must be properly labeled and marked. The outside of the overpack must have the same markings and labels as the triple packages packed within, with the exception of the UN specification mark. This must not appear on the overpack. The overpack must also be marked with the statement “Inner Packages Comply with Prescribed Specifications” and the total net quantity in the overpack must be listed next to the proper shipping name.

**INNER PACKAGES
COMPLY WITH
PRESCRIBED
SPECIFICATIONS**

An overpack must not contain any other goods with infectious materials except refrigerant.

Ice and Dry Ice. If your material needs to be shipped in ice or dry ice, special packaging must be purchased. If ice is used, the packaging must be leakproof. If dry ice is used, the outer packaging must permit the release of carbon dioxide gas. The ice or dry ice must be placed outside the secondary packaging and interior supports must be provided to secure that the secondary packaging stays in the original position after the ice or dry ice has dissipated.

Liquid Nitrogen. Biological materials can be shipped in liquid nitrogen or dry shippers, which are insulated packages containing refrigerated liquid nitrogen fully absorbed in a porous material. Special packing regulations apply to shipments containing nitrogen. Contact Environmental Services if you need to ship specimens in nitrogen.

6. What Advance Arrangements Are Required?

You must consider what method you are going to use to ship your material. There are slightly different requirements for shipments made by mail and by air carrier. *Both methods of shipment require that when shipping infectious substances advance arrangements are made with the recipient. If shipping out of the country you must make sure the substance can be imported without delay in delivery.*

If you decide to mail your package through the United States Post Office you must use First Class, Priority Mail, or Express Mail. Certain agents may only be transferred via registered mail or an equivalent system, requiring notification of receipt to the sender immediately upon delivery. The United States Government controls these agents because of the serious threat they pose to public health. These agents are listed in Table 1. If the package is not received within 5 days after shipment, the CDC should be notified. If you are using any of these agents, or will be in the future, contact Environmental Services immediately.

Table 1 Agents Requiring Notification of Receipt
Coccidioides immitis.
Ebola virus. Francisella (Pasteurella) tularensis.
Hemorrhagic fever agents including, but not limited to, Crimean hemorrhagic fever (Congo), Junn, Machupo viruses, and Korean hemorrhagic fever viruses.
Herpesvirus simiae [B virus].
Histoplasma capsulatum
Lassa virus.
Marburg virus.
Pseudomonas mallei.
Pseudomonas pseudomallei.
Tick-borne encephalitis virus complex including but not limited to Russian spring-summer encephalitis, Kyasanur forest disease, Omsk hemorrhagic fever, and Central European encephalitis viruses.
Variola major and Variola minor and White pox viruses.
Yersinia (Pasteurella) pestis

7. What Are the Key Regulatory Terms Needed to Describe My Shipment?

Whichever way you decide to ship your material, the packages must be properly labeled and marked for identification purposes. You must always include:

- *Proper Shipping Name* - This includes a general description (proper shipping description, see Table 2) plus the correct species name to identify it on all packaging and documents. For example: "Infectious Substance Affecting Humans (*Herpes simae*)". If you cannot positively identify the microorganism, use the name of the suspected microorganism. Infectious substances having other hazardous properties must always be classified as infectious substances with the additional hazards identified. If the substance is infectious to both humans and animals, the proper shipping description would be "Infectious Substance, Affecting Humans."
- *UN or ID Number* - This number always follows the proper shipping description and the prefix UN must be used with these numbers (for example UN 2814). This number is assigned by the United Nations to identify substances. (see Table 2)
- *IATA Class* - The IATA regulations divide hazardous materials into numerical classes and require that you identify the *IATA Class* for the material you want to ship. Some biological materials do not require a class number. However, this does not mean they are exempt from shipping requirements.
- *IATA Packing Instruction*. This number refers to the type of packaging and labeling requirements for each group of substances listed in the IATA regulations. Regulations for packing instructions listed in Table 2 are covered in this training. If you are using dry ice with your shipment, you must also identify the *Packing Group*.

Table 2 summarizes the above information for common biological materials and hazardous materials that may be packed with them.

Table 2 Identifying Your Shipment				
Proper shipping description	UN or ID Number	IATA class	IATA Packing Instruction	Packing Group
Infectious substance affecting humans	UN 2814	6.2	602	-
Infectious substance affecting animals	UN 2900	6.2	602	-
Diagnostic specimens	None	None	650	-
Genetically modified microorganisms (not otherwise classified as infectious substances)	UN 3245	9	913	-
Dry Ice	UN 1845	9	904	III

8. How Do I Mark and Label My Package?

Marking and **labeling** requirements are based on the type of material you are shipping. For all classes of substances, the proper specimen name is required on primary, secondary, and outer packaging and the shipper's and recipient's addresses are required on secondary and outer packaging. Labels on the outer packaging must be placed on the same side of the package as the proper shipping name. The outer packaging must be of sufficient size to accommodate all labels placed on a single surface and labels must not overlap. Below marking and labeling requirements for the outer packaging are specified by the type of material being shipped.

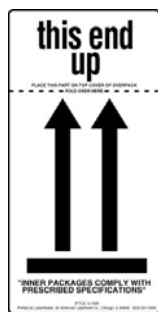
8.1 Infectious Substances

Each outer package of infectious substances must be **marked** with the following:

- The proper shipping name and UN Number for all hazardous contents. (see Table 2)
This includes the proper shipping description, the technical name of the infectious substance and the UN number. For example: "Infectious Substance Affecting Humans (*Herpesvirus simiae*) UN 2814".
- The full name, address, and phone number of the shipper and the recipient.
- The name and telephone number of the person designated as the "Responsible Person" for the package.
- UN specification mark. This mark includes the United Nations packaging symbol, the type of packaging, the hazard class (6.2 for infectious material), the year of manufacture of the packaging, the authorizing agency and the manufacturer. This marking is preprinted on commercially available packaging for infectious substances. (See Appendix 2 for vendors) This number should not appear on an overpack.

Each package of infectious substances must have the following **labels** and documents on the outside of the shipping container, placed on the package in the same orientation as shown here.

- Class 6, Division 6.2 "Infectious Substance" label.
This diamond-shaped label should contain the telephone number of the CDC in Atlanta to which damaged or leaking packages should be reported.



- "Package Orientation (This Way Up)" labels.
Two package orientation labels must be affixed on opposite sides of the package.

- c) "Cargo Aircraft Only" label for shipments that exceed the maximum quantity/weight restrictions specified for passenger aircraft (see section 4 - What Quantities Can Be Shipped).



- d) The *Shipper's Declaration for Dangerous Goods* document should be attached to the outside of the outer packaging for all packages traveling by air. (see page 11 for more information)
- e) A current U.S. Public Health Service import permit label for infectious substances imported from outside the United States.

8.2 Diagnostic Specimens

Diagnostic specimens must be **marked** on the outer packaging with the following:

- a) If being shipped by air, the following statement must be **on each package** and on the airway bill in the "Nature and Quantity of Goods" box; "Diagnostic Specimens, packed in compliance with IATA packing instruction 650."
- b) The full name and address of the shipper and the recipient

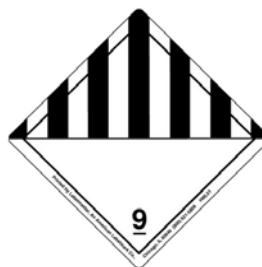
Diagnostic specimens must have the following **labels** on the outside of the shipping container:

- a) "Package Orientation (This Way Up)" labels. Two labels must be affixed on opposite sides of the package.



8.3 Shipments Containing Dry Ice

Shipments containing dry ice must be **marked** with the net weight of the dry ice within the package.



This diamond-shaped **label** is used for Class 9 "Miscellaneous Dangerous Goods".

8.4 Genetically Modified Microorganisms

Outer packages containing Genetically Modified Microorganisms that are not classified as infectious substances must be **marked** in the same way as Infectious Substances (see Section 8.1). In addition the package must have package orientation **labels** as described above and the Class 9, "Miscellaneous Dangerous Goods" **label** (see Section 8.3 for dry ice).

9. How Do I Fill Out the Shipper's Declaration for Dangerous Goods?

Packages containing infectious substances must contain a "Shipper's Declaration for Dangerous Goods" form. You must fully and accurately complete this legal document. This form must have red piping along the left and right margins, so you cannot use black and white copies. Incomplete, ineligible or inaccurate documents will result in refusal of the package by the carrier. Complete three copies of the Shippers Declaration. Keep one for your records and present the other two to the carrier. The Shipper's Declaration is different from an airway bill. The carrier you choose may also require that an airway bill be filled out.

To complete the Shipper's Declaration for Dangerous Goods (see Figure 2), follow these steps:

- a) **Shipper** - Enter your full name and address, including telephone number.
- b) **Consignee** - Enter the full name, address, and telephone number of the recipient. Include the name and phone number of the responsible person for contact in an emergency.
- c) **Transport Details** - Cross out the box that does not apply (quantity limitations dictate if it is to be shipped cargo only - see page 5).
- d) **Shipment type/Non-radioactive or Radioactive** - Cross out "Radioactive"
- e) **Nature and quantity of dangerous goods** - This is the most important part of the Shipper's Declaration and must be filled out correctly. All hazardous materials must be included.
 - 1) Proper Shipping Name - Enter the correct description found in Table 2, for example "Infectious substance affecting humans", followed by the proper name of the agent in brackets, for example (*Bordetella pertussis*). List all infectious materials and any hazardous materials they are packed in.
 - 2) Class or Division - See Table 2, all Infectious Substances are Class 6.2
 - 3) UN or ID No. - See Table 2, for example the UN number for infectious substances affecting humans is UN 2814
 - 4) Packing Group - This does not apply to infectious substances, leave blank. If shipping in dry ice the packing Group is III
 - 5) Subsidiary Risk - There is no subsidiary risk when shipping infectious materials or dry ice
 - 6) Quantity and Type of Packing - Enter the total net quantity of each of the substances being shipped and the type of material of the outer container, for example "Packed in one fiberboard box"
 - 7) Packing Inst. - See Table 2, for example Dry Ice falls under Packing Instruction 904, Diagnostic Specimens under 650
 - 8) Authorization - leave blank
- f) **Additional Handling Information** - Required in this section are:
 - 1) The statement "Emergency Contact" with the telephone number of the person who is knowledgeable about the agent and can provide the appropriate information in the case of an emergency 24 hours a day
 - 2) The statement "Prior arrangements as required by the IATA Dangerous Goods Regulations 1.3.3.1 have been made"
 - 3) The statement "Prepared according to ICAO/IATA"
- g) **Sign and date**

Figure 2. Shipper's Declaration for Dangerous Goods

SHIPPER'S DECLARATION FOR DANGEROUS GOODS							
Shipper a				Air Waybill No. Page of Pages Shipper's Reference Number <i>(optional)</i>			
Consignee b							
Two completed and signed copies of this Declaration must be handed to the operator.				WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.			
TRANSPORT DETAILS c This shipment is within the limitations prescribed for: <i>(delete non-applicable)</i>				Airport of Departure:			
<input type="checkbox"/> PASSENGER AND CARGO AIRCRAFT		<input type="checkbox"/> CARGO AIRCRAFT ONLY		Airport of Destination:			
Airport of Destination:				Shipment type: <i>(delete non-applicable)</i> d <input type="checkbox"/> NON-RADIOACTIVE <input type="checkbox"/> RADIOACTIVE			
NATURE AND QUANTITY OF DANGEROUS GOODS							
Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Pack- ing Group	Subsidiary Risk	Quantity and type of packing	Packing Inst.	Authorization
e1	e2	e3	e4	e5	e6	e7	e8
Additional Handling Information f							
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					Name/Title of Signatory Place and Date g Signature <i>(see warning above)</i>		

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10. What Precautions Should I Take When Receiving Biological Materials?

Before arranging to receive infectious materials, verify that the shipment is being made in compliance with the regulations explained above and know the hazards associated with the agent you will be receiving. This includes obtaining an import permit if necessary.

When you receive your package make sure it isn't damaged. Open it in a biological safety cabinet with protective gloves. First open the outer packaging and remove the secondary container. Because the primary container may have leaked, before opening the secondary container wipe it down with an appropriate disinfectant. If the primary container has leaked, place all packaging material into an autoclave bag, autoclave and discard the autoclaved materials in red bag waste.

If your package is damaged, contents are missing, or the package does not arrive you must contact the shipper, carrier, the CDC, and Environmental Services.

11. How Do I Transport Infectious Materials Within the Medical Center?

The shipping requirements described above are not required if the material is NOT transported on public roadways. If transporting infectious materials within a building or series of buildings the following is suggested:

- Sealed, leakproof primary container.
- A secondary leakproof container; if the primary container is made of glass the secondary container must be of a rigid, unbreakable material.
- Absorbent material between the primary and secondary containers sufficient to contain any spill that may occur from the primary container.
- A biohazard label with the name of the material placed on the outside of the secondary container. If it is readily apparent that a diagnostic specimen is blood or other potentially infectious material, a biohazard label is not required for in-house transport.

12. What Are Select Agents?

The US Department of Health and Human Services has developed a list of biological agents that have the potential to pose a severe threat to public health. Regulations for these agents are designed to:

- (1) Ensure that these infectious agents and toxins are shipped only to institutions and individuals that are equipped to handle them appropriately.
- (2) Ensure that transfer of these agents is to those who have a legitimate reason to use them.
- (3) Develop a system whereby researchers involved in legitimate research may continue transferring these agents without undue burdens.

The regulation for these agents is PHS 42 CFR Part 72.6 *Additional Requirements for Facilities Transferring or Receiving Select Agents*. Information may be obtained by calling 404-639-4418

or through the Internet at <http://www.cdc.gov/od/ohs/lrsat.htm>. If you will be working with select agents please contact Environmental Services.

13. What Are Other Import and Export Requirements?

Importation of Etiologic Agents of Human Disease

42 CFR Part 71 Foreign Quarantine. Part 71.54 Etiologic Agents, Hosts and Vectors.

This regulation requires an import permit from the Centers for Disease Control and Prevention for importing etiologic agents of human disease and any materials, including live animals or insects, that may contain them. Call 1-888-CDC-FAXX, and enter document number 101000, for information on applying for an importation permit or look on the Internet at:

<http://www.cdc.gov/od/ohs/biosfty/imprrper.htm>

Importation of Etiologic Agents of Livestock, Poultry and Other Animal Diseases

9 CFR Parts 92, 94, 95 96, 122 and 130. These regulations requires an import permit from the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services to import or domestically transfer etiologic agents of livestock, poultry, other animals, and any materials that might contain these etiologic agents. Information may be obtained at (301) 734-3277, or from the Internet at:

<http://aphisweb.aphis.usda.gov/>

Importation and Exportation of Endangered Species of Animals and Plants

The U.S. Department of the Interior, U.S. Fish and Wildlife Service, Convention on International Trade in Endangered Species (CITES) protects many species of animals and plants to ensure that commercial demand does not threaten their survival in the wild. The Office of Management Authority administers CITES in the U.S. and processes applications for permits. Live animal shipments must meet the IATA Live Animal Regulations or the CITES guidelines for transport. In addition, the import of live mammals and birds must meet the humane shipment regulations in 50 CFR Part 14. For more information, contact Office of Management Authority, United States Fish and Wildlife Service at 1-800-358-2104 or on the internet at:

<http://www.fws.gov/r9dia/>

Export of Etiologic Agents of Humans, Animals, Plants and Related Materials

Department of Commerce. 15 CFR Parts 730 to 799. This regulation requires that exporters of a wide variety of etiologic agents of human, plant and animal diseases, including genetic material have an export license. Information may be obtained by calling the DOC Bureau of Export Administration at 202-482-4811 or through the Internet at:

<http://bxa.fedworld.gov>, or <http://www.bxa.doc.gov>

Appendix 1

Regulations Covering the Transport of Infectious and Hazardous Substances

Public Health Service 42 CFR Part 72. Interstate Transportation of Etiologic Agents.

This regulation is in revision to harmonize it with the other U.S. and international regulations. A copy of the current regulation may be obtained from the Internet at:

<http://www.cdc.gov/od/ohs/biosfty/shipregs.htm>

Department of Transportation. 49 CFR Parts 171-180. Hazardous Materials Regulations.

Applies to the shipment of both biological agents and diagnostic specimens. Information may be obtained from the Internet at:

<http://hazmat.dot.gov/rules.htm>

United States Postal Service. 39 CFR Part 111. Mailability of Etiologic Agents.

Codified in the Domestic Mail Manual 124.38: Etiologic Agent Preparations. A copy of the Domestic Mail Manual may be obtained from the Government Printing Office by calling 1-202-512-1800 or from the Internet at:

<http://www.access.gpo.gov>

Occupational Health and Safety Administration (OSHA). 29 CFR Part 1910.1030.

Occupational Exposure to Bloodborne Pathogens. Provides minimal packaging and labeling requirements for transport of blood and body fluids within the laboratory and outside of it.

Information may be obtained from your local OSHA office or from the Internet:

<http://www.osha.gov>

Dangerous Goods Regulations (DGR). International Air Transport Association (IATA).

These regulations provide packaging and labeling requirements for infectious substances and materials, as well as diagnostic specimens that have a low probability of containing an infectious substance. These are the regulations followed by the airlines. These regulations are derived from the Committee of Experts on the Transport of Dangerous Goods, United Nations Secretariat, and the Technical Instructions for the Transport of Dangerous Goods by air which is provided by the International Civil Aviation Organization (ICAO). For assistance with the requirements of the regulation, call the IATA DG hotline at 514-390-6770. A copy of the DGR may be obtained by calling 1-800-716-6326 or through the Internet at:

<http://www.iata.org/cargo/dg/>

Guidelines for the Safe Transport of Infectious Substances and Diagnostic Specimens. World Health Organization, 1997.

<http://www.who.int/emc/biosafety.htm>

Appendix 2

MANUFACTURERS OF CERTIFIED SHIPPING CONTAINERS FOR INFECTIOUS SUBSTANCES AND DIAGNOSTIC SPECIMENS

Air Sea Atlanta
1234 Logan Circle
Atlanta, GA 30318
Phone: 404-351-8600
FAX: 404-364-4005
Web: www.airseatlanta.com

Casing Corporation
P.O. Box 820369
Dallas, TX 75382-0369
Phone: 800-358-6866
FAX: 214-320-1682
Web: www.casingcorp.com

Cargo Pak Corporation
306-A White Street South
Wake Forest, NC 27587
Phone: 800-266-0652
FAX: 919-554-9055
Web: www.cargopak.com

DG Supplies, Inc.
28 C Industrial Drive
Hamilton, NJ 08619
Phone: 800-347-7879
FAX: 609-860-0285
Web: www.dgsupplies.com

EXAKT Technologies, Inc.
7416 North Broadway
Extension, Suite E
Oklahoma City, OK 73116
Phone: 800-866-7172
FAX: 405-848-7701
Web: www.exaktpak.com

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5301 Polk Avenue, Bldg 18
Houston, TX 7702310
Phone: 800-923-9123
FAX: 713-923-1111
Web: www.hazmatpac.com

Inmark, Inc.
220 Fisk Drive, S.W.
Atlanta, GA 30336
Phone: 404-267-2020; 800-646-6275 (OUTSIDE GEORGIA)
FAX: 404-349-5249
Web: www.inmarkinc.com

Nalge Nunc International
75 Panorama Creek Drive
P.O. Box 20365
Rochester, NY 14625

Phone: 716-586-8800
FAX: 716-586-8987
Web: www.nalgenunc.com

Polyfoam Packers Corporation
2320 Foster Avenue
Wheeling, IL 60090-6572
Phone: 800-323-7442
FAX: 847-398-0653
Web: www.polyfoam.com

SAF-T-PAK, Inc.
101, 17872 - 106 Avenue
Edmonton, Alberta, Canada T5S 1V4
Phone: 800-841-7484
FAX: 403-486-0235
Web: www.saftpak.com

Source Packaging Of New England, Inc.
405 F Kilvert Street
Warwick, RI 02866
Phone: 800-200-0366
FAX: 401-738-7762
Web: www.sourcepak.com

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Los Angeles, CA 90040
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