



SPECIMEN TRANSPORT INSTRUCTIONS

2012



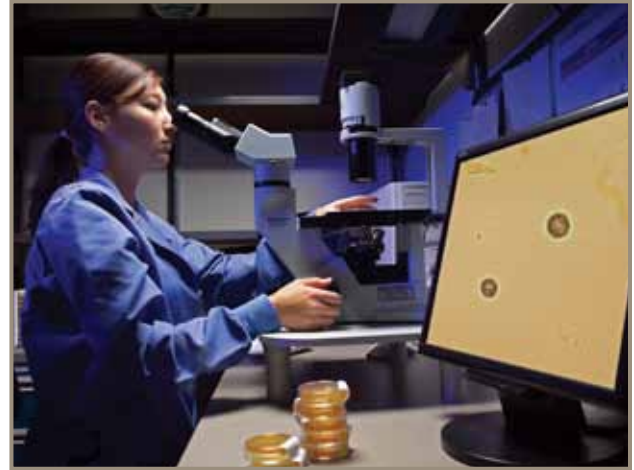
INTRODUCTION

QUALITY, TRUST, & RELIABILITY

ARUP Laboratories is an independent, physician-run, national clinical and anatomic pathology reference laboratory. With nearly 3,000 employees, ARUP processes more than 30,000–35,000 specimens of blood, body fluid, and tissue biopsies per day for clients located in all 50 states.

ARUP is based in Salt Lake City, Utah, a major metropolitan hub with one of the fastest growing airports in the nation. Currently, 13 airlines operate approximately 800 daily flights to Salt Lake City International Airport. Shipments arrive continuously, ensuring rapid turnaround times on test results, regardless of where a client's laboratory may be located. Throughout the transportation process, ARUP's Logistics and Transportation Department employs a variety of quality assurance indicators that monitor and assure specimen integrity.

Specimen pickup and transport to ARUP are managed by ARUP's Logistics and Transportation team. A representative from a contract courier in the client's service area will pick up specimens from the client site. In order to optimize specimen integrity, ARUP provides supplies to clients to facilitate proper specimen collection, transfer, and transport. ARUP continuously monitors the shipping regulations of medical specimens established by the International Air Transport Association (IATA) and Department of Transportation (DOT) to remain in compliance.



QUALITY, TRUST, & RELIABILITY



SPECIMEN LABELING

All specimens submitted to ARUP for testing must be appropriately labeled.* This requirement assures positive identification and optimum integrity of patient specimens from the time of collection until testing is completed and results reported. Clients will be notified of inappropriately labeled specimens, which will be returned to the client upon request.

*The College of American Pathologists (CAP) Laboratory General Checklist (revised September 27, 2007) requires that all specimens must be labeled at the time of collection to provide unique identification. Ideally, a name-number system is desirable so that there are at least two separate identifying items on each sample (CAP GEN.40491). The Joint Commission 2009 Patient Safety Goals requires two identifiers to label collection containers in the presence of the patient, a process established to maintain identity throughout the pre-analytical, analytical, and post-analytical processes (Goal 1, NPSG.01.01.01).

ARUP STANDARD TRANSPORT TUBES

ARUP requires the use of ARUP standard transport tubes for specimen submission. These containers have been evaluated by ARUP and are not known to cause analytical interference in the associated assays. ARUP standard transport tubes are also available in an amber color required for light-sensitive tests and metal-free for trace element testing. All ARUP standard transport tubes meet DOT 49 CFR 178.605 and IATA DGR 6.3.5 requirements for the transport of specimens.

Please note the following:

- The tube has graduated markings **up to 4 mL**, which is the maximum capacity.
- When submitting specimens, it is critical to leave an air space at the top of the tube to allow for expansion and prevent leakage. For this reason, **liquid should never exceed 4 mL**.
- A separate tube must be submitted for each panel or test ordered on the same patient, especially for tests requiring frozen specimens.
- If specimen requirements indicate more than 4 mL, submit sample in multiple tubes.
- The tube's threaded cap provides a leakproof seal when screwed on properly. It is not a push-on cap.
- The label must be adhered as pictured below. Hold the tube in your left hand and place the label lengthwise.
- Do not use Parafilm® laboratory sealing film.
- ARUP's standard transport tubes are not sterile. Do not use them for infectious disease tests requiring sterile transport.



ARUP standard transport tube



Amber-colored ARUP standard transport tube

SPECIMEN REJECTION/TEST CANCELLATION

Containers that may be accepted, but should be avoided:

- Glass tubes for refrigerated and ambient (room temperature) specimens
- Tubes from an automated aliquot system with a pop-top type of cap, unless accompanied by the appropriate ARUP transport rack lid
- Syringes (where required) that are plastic and have a Luer Lock fitting, which secures the cap. The syringe should be enclosed in two plastic bags and placed in a small cardboard box or plastic jar with a screw cap to protect the plunger from accidental pushing. **No needles should be attached.**
- Client-specific containers

Unacceptable containers and/or conditions:

- Glass tubes for frozen specimens, unless otherwise specified
- Leaking specimens
- Syringes with needles attached
- Transport tubes secured with parafilm
- Specimens received in expired transport containers or media
- Serum and plasma separator tubes (SST and PST). When a separator tube is used for collection, promptly centrifuge the specimen and pour the serum or plasma into an ARUP standard transport tube before shipping to ARUP, unless otherwise specified. Numerous tests prohibit the use of specimens collected in tubes containing gels. If prohibited, the information will appear for the test entry under **Remarks or Unacceptable Conditions** in the ARUP Laboratory Test Directory, online at www.aruplab.com.

SPECIMEN TRANSPORTATION CONTAINER 95KPA VALIDATION

All specimen containers supplied by ARUP for specimen transport withstand stringent testing to ensure they are well-constructed and have secure lids that prevent leakage during transport. This validation complies with regulations and meets the shipping requirements of the Department of Transportation's 49 CFR 178.605, Dangerous Goods Regulations IATA DGR 6.3.5, and the CAP General Checklist. The official documentation can be found in the ARUP eSupply Catalog attached directly to the specific item.

Clients are responsible for specimens submitted in containers not supplied by ARUP. Documentation on containers not provided by ARUP should be obtained directly from the manufacturer or an outside testing facility. Please contact your local BDM for information regarding outside testing facilities.



TRANSPORT RACKS

ARUP Laboratories provides specimen tube racks for the separation of specimens and plastic bags with absorbent material. Two 10-hole tube racks may be placed in the color-coded bags. Larger transport options are available; contact your business development manager. **All specimens must be in leakproof primary containers (transport tubes) and must be placed in leakproof secondary containers (color-coded specimen bags).** Couriers are prohibited from picking up specimens that are leaking or are not in secondary containers (i.e., ARUP color-coded specimen bags or pressurized specimen containers). Tube racks must be marked with the correct holding and transport temperature and placed in the temperature-specific, color-coded bags. Clients are responsible for packing specimens in the appropriate color-coded specimen bags. Tube racks meet the DOT requirement to keep fragile specimen containers from contact with one another. Alternatively, fragile specimens must be individually wrapped in a specimen bag or with absorbent material. Rack lids are available through ARUP Client Services if using pop-top lids.

SPECIMEN BAGS

ARUP specimen bags are bar coded and color coded in order to assist with the tracking and handling of specimens. Each bag has a perforated receipt, as well as a central information section. Clients must complete the central information section (e.g., date, client number, and specimen count). If the specimen count is not indicated on the bag, ARUP cannot be responsible for tracking missing or lost specimens. The specimen count and the date should be entered on the perforated receipt and attached to the client's copy of the packing list or logging system for easy, accurate reference.

Caution: Be sure to tighten caps on tubes and close bags securely.

Note: If submitting more than one specimen per patient, and if specimens need to be stored and transported at different temperatures, use separate bags and test request forms or packing lists for each temperature type.



Each ARUP rack holds 10 tubes.



Green: Room temperature (ambient) specimens
Gray: Refrigerated specimens
Blue: Frozen specimens

INSTRUCTIONS FOR CLIENTS USING MANUAL TEST REQUEST FORMS

Manual test request forms are available through ARUP Client Services. Call (800) 522-2787 and a Client Services representative will assist in determining the appropriate form needed.

1. Use a separate container/tube and test request form for each test ordered on the same patient, especially for frozen specimens. ARUP may be unable to process specimens that are not in separate containers.
2. Use a **black pen**, as ARUP will scan the request form for image retrieval.
3. Complete the information requested at the top of the form.
4. Mark an "x" in the box indicating the test(s) requested. Record number of specimens submitted and total number of tests ordered on the test request form in the lower-left corner. If there is no box for a test you are requesting, write the test number and the complete test name in the Other Tests Ordered box.
5. Legibly write the patient's first and last name with a unique identifier and specimen type or source on the specimen container.
6. Keep the bottom copy of the form for your records and retain the bag-identification tear-off strip.

Manual test request form required

The ARUP Anatomic Pathology and Cytology laboratories require a specific, manual test request form for each specimen submitted. Contact ARUP Client Services to request forms.

INSTRUCTIONS FOR CLIENTS USING INTERFACES OR ARUP SYSTEM 2000®

1. Generate a specimen packing list. A client number must appear on the packing list.
2. Legibly write the patient's first and last name with a unique identifier and specimen type or source on the specimen container. If using ARUP System 2000, adhere the printed label to the specimen.
3. Match specimens to entries on the packing list to ensure there is a specimen for each test ordered and for each temperature requirement.



IDENTIFYING SPECIMEN TYPE AND TEMPERATURE

To ensure optimum testing conditions for a specimen that is sent to ARUP Laboratories, the client must determine two things:

1. Determine the type of specimen to be sent: Exempt Human Specimen; Biological Substance, Category B; or Infectious Substance, Category A.
2. Determine the temperature at which the specimen must be maintained during transit, using instructions for individual tests listed in the ARUP Laboratory Test Directory, online at www.aruplab.com.

DOT AND IATA REQUIREMENTS FOR SHIPPING SPECIMENS

When shipping specimens, it is essential that each specimen be packaged and shipped properly. Complying with the regulations set forth by the DOT and the IATA will control or eliminate many health and financial liabilities, both criminal and civil. Other shipping regulations (IATA, CFR 29, 42 and 49, ICAO, and USPS) may also apply, depending on the transport service used.

The following rules apply for all specimens:

- The primary and secondary receptacles must be leakproof and not contain more than 500 mL or grams.
- There must be absorbent material placed between the primary receptacle and the secondary packaging sufficient to absorb the entire contents of all primary containers within the secondary package.
- The primary receptacle or the secondary packaging must be capable of withstanding, without leakage, an internal pressure differential of not less than 95 kPa.
- If multiple fragile primary receptacles are placed in a single secondary packaging, they must be either individually wrapped or separated to prevent contact between them.
- An itemized list of contents must be enclosed between the secondary packaging and the outer packaging.

EXEMPT HUMAN SPECIMEN PACKING

Exempt Human Specimens are defined as clinical specimens (i.e., blood, secret, excreta, tissue, or fluid) not known to contain or suspected to contain a pathogen or a **Biological Substances, Category B**, specimen in which the pathogen has been neutralized or inactivated so it cannot cause a disease when exposure to it occurs.

Exempt Human Specimens are excluded from hazardous materials regulation.

When submitting Exempt Human Specimens:

1. Place specimens in the ARUP rack in the order the specimens appear on the packing list or in the same order as the test request forms.
2. Mark the rack(s) with your client number, along with the correct temperature and rack number.



Packing list or test-request forms fit into the outside sleeve.



3. Place one or two racks in the zip-lock portion of the correct color-coded specimen bag. If racks cannot be used, then the specimen must be packed individually in a specimen bag; or, if multiple specimens are being sent, they must be individually wrapped and placed in a specimen bag.
4. Completely fill in the date, client number, and specimen count on the bag and place all of the paperwork into the outside pouch.
5. Remove the perforated section of the color-coded bag and keep for your records.
6. Place bag in appropriate temperature location for courier to pick up.

BIOLOGICAL SUBSTANCE, CATEGORY B, PACKING

Biological Substances, Category B, are defined as human or animal material, including excreta, secretions, blood and its components, tissue, and tissue fluids being transported for diagnostic or investigational purposes, but excluding live infected humans or animals.

A specimen which meets the definition of Biological Substance, Category B (being transported for diagnostic or investigational purposes), but is known to originate from a patient with an infectious disease should still be transported as a Biological Substance, Category B, specimen.

When submitting Biological Substance, Category B, specimens:

1. Place specimens in the ARUP rack in the order the specimens appear on the packing list or in the same order as the test request forms.
2. Mark the rack(s) with your client number, along with the correct temperature and rack number.
3. Place one or two racks in the zip-lock portion of the correct color-coded specimen bag. If racks cannot be used, then the specimen must be packed individually in a specimen bag; or, if multiple specimens are being sent, they must be individually wrapped and placed in a specimen bag.
4. Completely fill in the date, client number, and specimen count on the bag and place all of the paperwork into the outside pouch.
5. Remove the perforated section of the color-coded bag and keep for your records.
6. Place bag in appropriate temperature location for courier to pick up.



INFECTIOUS SUBSTANCE, CATEGORY A, PACKING

Infectious Substances, Category A, are substances that are known or are reasonably expected to contain pathogens. Pathogens are defined as microorganisms (including bacteria, viruses, rickettsiae, parasites, and fungi) and other agents, such as prions, which can cause disease in humans or animals. Infectious substances are capable of causing permanent disability or life-threatening, fatal disease to humans or animals when exposure to them occurs. For a complete list, refer to *IATA Dangerous Goods Regulations*, 52nd edition, 2011, page 128.

Only specimens that meet the criteria for inclusion as a Category A substance must be shipped as infectious substance.

Submissions to ARUP that require infectious substance shipping are limited to cultivated, either known or suspected, pathogens of:

<i>Bacillus anthracis</i>	<i>Francisella tularensis</i>
<i>Brucella species</i>	<i>Mycobacterium tuberculosis</i>
<i>Coccidioides immitis</i>	<i>Yersinia pestis</i>

Cultures (laboratory stocks) are the result of a process by which pathogens are amplified or propagated in order to generate high concentrations, thereby increasing the risk of infection when exposure to them occurs. This definition refers to cultures prepared for the intentional generation of pathogens and does not include cultures intended for diagnostic and clinical purposes.

When submitting Infectious Substance, Category A, specimens:

1. Before infectious substances can be shipped, training which includes testing and certification must be obtained. Infectious substance training is available online through ARUP. For more information, consult your business development manager.
2. Depending on the quantity and type of specimen being sent, obtain a large, medium, or clear plastic tube pressure container. Secure specimen inside the container following container usage instructions (see next page).
3. For infectious substances, a positive means of closure is required for all ambient (room temperature) specimens. If screw caps are used, they must be secured with adhesive tape, not parafilm.
4. Infectious substances must be shipped in their own shipping container, with no other specimen types, and must not contain dry ice.
5. Locate the packet that consists of the **Shipper's Declaration for Dangerous Goods** form (see Example B, page 10) and two **Class 6/UN 2814 Infectious Substances combo labels** (see Example A).
6. **The client is responsible for filling out the top portion of the two Class 6/UN 2814 Infectious Substances combo labels.** Indicate the total volume of specimens being sent (see Example A).

Example A

UN 2814 Infectious Substance, Affecting Humans

TOTAL INFECTIOUS VOLUME:
20 mL

Shipper's Name: ABC Courier Services
Shipper's Address: 123 Main Street
Cincinnati, OH 04156
Responsible Person: Johnny Driver
Telephone #: (801) 592-2425

INFECTIOUS SUBSTANCE

IN CASE OF DAMAGE OR LEAKAGE
IMMEDIATELY NOTIFY
PUBLIC HEALTH AUTHORITY

IN U.S.A.
NOTIFY DIRECTOR - CDC
ATLANTA, GA
1-800-232-0124

6

ARUP
500 Chipeta Way
Salt Lake City, UT 84108
800 • 242 • 2787

12032008-45432-MILLAR

Overall Label Dimensions: 9.5" by 6"



7. Take the above-mentioned packet, along with the packing list, and place them in the outside pouch of the green color-coded specimen bag.
8. Place the pressure container into the green color-coded specimen bag. Completely fill out the information on the outside of the bag. Remove the perforated section of the bag for your tracking records.
9. Place the green color-coded bag in the appropriate temperature location for courier to pick up.

INFECTIOUS SUBSTANCE SHIPPING SUPPLIES

There are three types of pressurized secondary containers provided by ARUP that are used for the inner packaging of infectious substances. Selection of the container depends on the number of infectious substances or the type of specimens to be shipped. **Use only containers provided by ARUP.**

1. **Large plastic container** with a screw cap, O-ring lid, foam plug, and supplied plastic bag: ARUP supply #19813.

Primary usage: For transport of slants, irregularly shaped specimens, or larger specimens.

Instructions for use: Put the primary container that holds the specimen in the opening of the foam plug. Place the foam plug inside the plastic bag and seal the bag. Place the plastic bag with the foam plug in the pressure container, making sure the foam cushions are in place on the top and bottom of the secondary container. Screw the lid on to sufficiently engage the O-ring for proper sealing. Infectious substances should only be shipped ambient (room temperature). Be sure to mark the ambient shipping temperature on the outside of the pressure container. Place the secondary container in the green color-coded bag.

2. **Medium plastic container** with a screw-top lid and a sheet of absorbent material in a zippered plastic bag: ARUP supply #19814.

Primary usage: For transport of multiple individual transport tubes or similar whole-blood tubes.

Instructions for use: Unfold the absorbent material as a sheet. Insert the primary container that holds the specimen in a pouch in the absorbent material, adding up to six primary containers. Place the sheet holding the primary containers in the plastic bag and seal the bag. Place the bag in the secondary container. Tighten the screw-cap lid to engage the O-ring for proper sealing. Infectious substances should only be shipped ambient (room temperature). Be sure to mark the ambient shipping temperature on the outside of the pressure container. Place the secondary container in the green color-coded bag.

3. **Clear plastic tube** with screw-top lid and absorbent material: ARUP supply #19815.

Primary usage: For transport of individual transport tubes.

Instructions for use: Wrap the primary container that holds the specimen in the absorbent material. Place the primary container and absorbent material in the pressure container. Tighten the screw-cap lid until it engages the tamper seal. Infectious substances should only be shipped ambient (room temperature). Be sure to mark the ambient shipping temperature on the outside of the pressure container. Place the secondary container in the green color-coded bag.



Large container for slants and other large specimens; NO serum tubes. Place NO additional identifiers or stickers on container.



Medium container for multiple transport tubes or ONE body fluid (e.g. AFP) specimen. Place NO additional identifiers or stickers on container.



Clear plastic tube container for individual transport tubes.

DOT AND IATA TRAINING REQUIREMENTS FOR SHIPPING INFECTIOUS SUBSTANCES

When preparing and shipping infectious substances, it is essential that each specimen be packaged and shipped properly. Complying with the regulations set forth by the DOT and the IATA will control or eliminate many health and financial liabilities, both criminal and civil.

These regulations specify that anyone who ships or causes to be shipped any hazardous materials must have received training from a certified source within the last two years. A record of this training must be maintained during the term of employment and for one year following termination of employment. The training record must include the following:

- Individual's name
- Most recent training completion date
- Description, copy, or reference to training materials used to meet the training requirement
- Name and address of the organization that provided the training
- Copy of the certification issued when the individual was trained, indicating that a test has been completed satisfactorily

When a client ships his/her own specimens, the person packing the shipment is the client's designated employee, and the client is the shipper. If the courier ships specimens, the client is required to mark the **Class 6/UN 2814 Infectious Substances combo label** (see Example A, page 7) with the total volume of specimens being shipped, and the courier packs the shipment and becomes the shipper.

It is important to note that the previous instructions do not meet the requirements for certified training as set forth in DOT and IATA regulations. ARUP has provided this information for shipping via air transport, not as training material but as a reference for our clients. Other similarly stringent regulations apply for those who ship via ground or mail service. Questions regarding specific regulations may be directed to ARUP National Transportation Department at (800) 242-2787, ext. 5119.



ARUP shipping containers



INSTRUCTIONS FOR CLIENTS PACKING AND SHIPPING THEIR OWN INFECTIOUS SUBSTANCES

Important Notes

1. Place the pressure container in the green color-coded bag and then in the ambient (room temperature) section of the outer packaging.
2. Fill out the **Class 6/UN 2814 Infectious Substances combo label** (see Example A, page 7). The technical name is not required on this label. Total volume of the infectious specimen being shipped must be on the **Class 6/UN 2814 Infectious Substances combo label**. Shipper's name (client), address, and phone number of the person responsible for the shipment must also be entered. If courier picks up the specimens, he will fill out this section.
3. Place one **Class 6/UN 2814 Infectious Substances combo labels** on each side of the outer packaging (ARUP yellow shipping container).
4. Make sure to place the foam plug on top of the specimens inside the shipping container.
5. Seal the yellow shipping container by folding the flaps down and securing the nylon strap.
6. Complete the **Shipper's Declaration for Dangerous Goods** form (see next page for **Preparing the Shipper's Declaration for Dangerous Goods for Infectious Substances**). One copy of the declaration form must be kept on hand for two years.
7. Complete the FedEx or airline carrier air waybill (see Example C, page 12, and Example D, page 13) and place it on the shipping container.

Example B

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

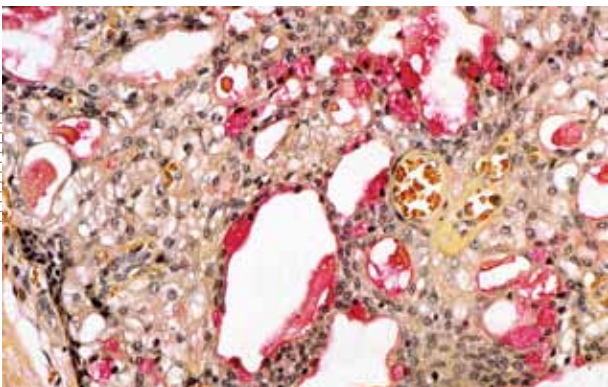
ARUP Laboratories
500 Chipeta Way
Salt Lake City, Utah 84108
(800) 243-2787 Ext. 1-2197

UN 2814 Infectious substance, affecting humans (Suspected Category A, Infectious Substance)

ONE (1) PLASTIC BOX
Total Volume _____ mL

24 hour number (800) 243-2787 ext. 1-2197

FOR OFFICIAL ARUP USE
Place Shipping Label Here



PREPARING THE SHIPPER'S DECLARATION FOR DANGEROUS GOODS FOR INFECTIOUS SUBSTANCES (CLIENT)

HOW TO FILL OUT THE DECLARATION OF DANGEROUS GOODS FORM

Information in **gold** will be preprinted by ARUP on the Shipper's Declaration for Dangerous Goods for Infectious Substances form.

1. **Shipper:** Enter the full name and address of the shipper. If the client prepares the shipment, the client is the shipper. If the courier receives a properly labeled specimen, the courier is the shipper.
2. **Consignee:** Enter the full name and address of the consignee.
3. **Air Waybill number:** Enter the number of the air waybill.
4. **Page of pages:** Enter the page number and the total number of pages.
5. **Airport of departure:** Enter the full name of the city or airport of departure. **Do not use the three-letter airport code.**
6. **Airport of destination:** Enter the full name of the city or airport of destination. **Do not use the three-letter airport code.**
7. **Nature and quantity of dangerous goods:** The following should be included in this section:
 - **UN or ID no.:** Enter "UN 2814" for the specimens.
 - **Proper shipping name:** Enter "Infectious Substance, Affecting Humans" with the technical name "Suspected Category A Infectious Substance." Do not enter any other technical name (genus or species).
 - **Class or division:** Enter the number "6.2" for the infectious substance.
 - **Packing group:** Enter nothing on the line for the specimen.
 - **Quantity and type of packing:** Enter the total volume of specimens of the infectious substance within the shipping container.
 - **Packing instruction:** Enter the number "620" for the specimens.
 - **Authorization:** Leave blank. You may no longer ship a quantity of blood or blood product larger than 50 mL.
 - **Additional handling information:** A telephone number answered 24 hours per day seven days per week must be provided. Use the number (800) 242-2787, ext. 2107. Additionally, use the name Mike Brown, (801) 584-5119, as the responsible person.
8. **Name and title of signatory:** Enter the name and title of the person who is signing the declaration. This information may be printed or stamped (on all copies). Enter the date and the location where the declaration form is signed. The shipper must sign the declaration, and the signature must be written by hand and not typed.
9. **The Shipper's Declaration for Dangerous Goods** (provided by ARUP) includes four copies; three copies should be sent with the shipment, and the shipper should keep the last copy of the **Shipper's Declaration for Dangerous Goods** form (see Example B, previous page) with a copy of the airbill for two years.



WHEN SHIPPING VIA FEDERAL EXPRESS

- Fill in the shipper information on the air waybill, including the name and phone number of the person sending the shipment.
- On the air waybill under the section entitled **6 Special Handling** (see examples below):
 - For Exempt Human specimens, check the box "No." If dry ice is present mark the dry ice box, the number of boxes containing dry ice, and the weight of the dry ice being used.
 - For Category B specimens, check the box "Yes, Shipper's Declaration Not Required." If dry ice is present mark the dry ice box, the number of boxes containing dry ice, and the weight of the dry ice being used.
 - For Category A specimens, check the box "Yes, As per Attached Shipper's Declaration."
- Enter the number of boxes being sent and the weight of the boxes in the appropriate section.
- Attach the air waybill by removing the adhesive tape of the plastic pouch and applying the pouch to the shipping container. Place air waybill into the pouch.
- Retain the top copy of the air waybill as a record of the shipment.
- For Category A specimens, four copies of the **Shipper's Declaration for Dangerous Goods** must be presented to the forwarder with the shipment. The shipper keeps one copy. This copy must be kept for two years following receipt of the shipment.
- Call (800) 242-2787, #4, option 1, with the air waybill number, so that your shipment can be tracked by ARUP. Please advise the person receiving the call that the shipment contains infectious substances and include the volume of the organism(s) being shipped.

Shipments sent via Federal Express should only be shipped Monday through Friday. **Do not ship on Saturday.** If specimens are shipped on Friday, the air waybill must be marked for Saturday delivery or the shipment will not be delivered until Monday.

Example C

CAT B Specimens and Dry Ice

CAT A Specimens

WHEN SHIPPING VIA THE AIRLINES

Exempt Human Specimens are exempt from the hazardous transport regulations. These specimens will be accepted on most commuter and commercial airlines. There must be no reference to the terminology of Biological Substances, Category B, or diagnostic specimens, either on the shipping container or the air waybill. The air waybill must include the verbiage, "Exempt Human Specimens," listed under the contents/description section.

1. Fill in the shipper and consignee information on the air waybill, including the name and phone number of the person sending the shipment.
2. On the air waybill, under the section entitled **Nature and Quantity of Goods** (see examples below), a description of the contents of the shipment must be listed.
 - For Exempt Human specimens, write "Exempt Human Specimens, Non-HMR." If dry ice is used, include "DRY ICE, class 9, UN 1845, 2.2 kg."
 - For Category B specimens, write "UN3373, Biological Substance, Category B." If dry ice is used, include "DRY ICE, class 9, UN 1845, 2.2 kg."
 - For Category A specimens, write "Medical specimens (infectious)." Also include in the handling information, "Dangerous goods as per attached shipper's declaration." No dry ice information is required when shipping infectious substances since these types of specimens are shipped ambient (room temperature).
3. Three copies of the **Shipper's Declaration for Dangerous Goods** must be presented to the forwarder with the shipment. The shipper should keep one copy with a copy of the air waybill. The copy must be kept for two years following the receipt of the shipment.
4. Call (800) 242-2787, #4, option 1, with the air waybill number, so that your shipment can be tracked by ARUP. Please advise the person receiving the call that the shipment contains Infectious Substances and include the quantity of the organism(s) being shipped.

Biological and infectious shipments can only be transported on those airlines that have the appropriate hazardous materials training and accept these types of shipments.

Carriers such as Comair, Atlantic Southeast, Mesa, and some other smaller regional jet companies will not carry specimens identified as Category B and infectious on their aircraft. In those cases, priority mail such as Federal Express must be used.

Example D

Exempt Human Specimens

CAT B Specimens

CAT A Specimens

QUICK REFERENCE REVIEW

1. Identify specimen(s) to be sent to ARUP.
2. Determine the infectious nature of each specimen using the definitions provided.
 - a. **Instructions for Exempt Human Specimens:**
 - Order the appropriate test using an Interface, ARUP System 2000, or a manual test-request form.
 - If using an Interface and/or ARUP System 2000, print out a packing list for each temperature and **rack and bag these specimens separately**. Do the same for all manual test-request forms.
 - Place specimens in the ARUP rack **in the order the specimens appear on the packing list** or in the same order as the test-request forms.
 - Include all paperwork with the appropriate color-coded bag. Completely fill in the date, client number, and specimen count on the bag and place all of the paperwork into the outside pouch. **Remove the perforated section of the bag for your tracking records.**
 - Place the color-coded bag in the appropriate temperature location for the courier to pick up. Those shipping their own specimens must make sure the shipping container **does not have the words “Biological Substances, Category B,” anywhere on the box**. The air waybill must have “Exempt Human Specimens, non-HMR” listed under the contents/description section.
 - Pack **two** bags in each **small** (quarter-sized) section of the ARUP shipping container and pack as many as six bags in one **medium** (half-sized) section. For refrigerated specimens, layer three refrigerated gel packs in the secondary container. For frozen specimens, pack with five pounds (2.2 kg) of dry ice. When shipping with FedEx, add an extra five pounds of dry ice.
 - b. **Instructions for Biological Substances, Category B:**
 - Order the appropriate test using an Interface, ARUP System 2000, or a manual test-request form.
 - If using an Interface and/or ARUP System 2000, print out a packing list for each temperature and **rack and bag these specimens separately**. Do the same for all manual test request forms.
 - Place specimens in the ARUP rack **in the order the specimens appear on the packing list** or in the same order as the test request forms.
 - Include all paperwork with the appropriate color-coded bag. Completely fill in the date, client number, and specimen count on the bag and place all of the paperwork into the outside pouch. **Remove the perforated section of the bag for your tracking records.**
 - Place the color-coded bag in the appropriate temperature location for the courier to pick up. Those shipping their own specimens must make sure the shipping container has the words **“Biological Substances, Category B”** and **“UN 3373”** on both the box and the air waybill under description.

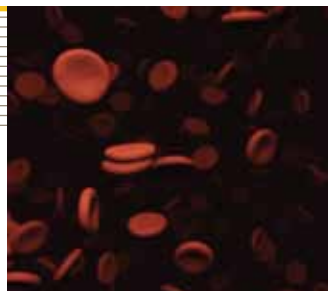


- Pack **two** bags in each **small** (quarter-sized) section of the ARUP shipping container; pack as many as four bags in one **medium** (half-sized) section; or pack as many as 12 bags in one **large** (full-sized) section. For refrigerated specimens, layer three refrigerated gel packs in the secondary container. For frozen specimens, pack with five pounds (2.2 kg) of dry ice. When shipping with FedEx, add an extra five pounds of dry ice.

c. **Instructions for Infectious Specimens, Category A:**

- Ship as ambient (room temperature) only.
- Order the appropriate test using an interface, ARUP System 2000, or a manual test request form.
- If using an interface and/or ARUP System 2000, print out a packing list for ambient specimens and **bag these specimens separately**. Do the same for all manual test request forms.
- For Infectious Substances, a positive means of closure is required for all ambient (room temperature) specimens. If screw caps are used, they must be secured with adhesive tape, not parafilm.
- Use the large, medium, or clear plastic tube pressure container depending on the quantity and type of specimens that you will be sending. A **Declaration of Dangerous Goods** form and **two Class 6/UN 2814 Infectious Substances combo labels** will need to accompany each container. **The client is only responsible for filling out the top portion of the two Class 6/UN 2814 Infectious Substances combo labels**, with the total volume being shipped.
- Include all paperwork with the appropriate color-coded bag. Completely fill in the date, client number, and specimen count on the bag and place all of the paperwork into the outside pouch. Remove the perforated section of the bag for your tracking records.
- Mark the appropriate shipping temperature (ambient or room temperature) located on the outside of the pressure container. Place the pressure container, along with the specimens, into the green color-coded bag and place the bag into the appropriate temperature (ambient or room temperature) location for the courier to pick up.
- Infectious substance specimens must be shipped separately from Category B and Exempt Human Specimens with their own air waybill number.

ARUP prefers specimens submitted for cultures to be bagged individually to maintain specimen integrity. If identity of the organism is not known or suspected to match the organism list on page 7 or the tests considered infectious list on page 16, it DOES NOT need a **Shipper's Declaration for Dangerous Goods** form.



TESTS CONSIDERED INFECTIOUS SUBSTANCES, CATEGORY A

QUALITY, TRUST, & **RELIABILITY**

NOTE: The following list of tests is a guide only, based on ARUP’s interpretation of the definition of infectious substances. This list may not be complete. You may deem that other specimens also meet the definition of infectious substances. All Category A microorganism isolates should be shipped as infectious substances and be labeled as “Suspected Category A Infectious Substance.”

Aerobic Organism Identification	0060115
Aerobic Organism Identification with Reflex to Susceptibility	0065070
AFB Identification	0060999
AFB Identification with Reflex to Susceptibility	0060997
Antimicrobial Susceptibility—AFB/Mycobacteria	0060217
Antimicrobial Susceptibility—AFB/ <i>Mycobacterium tuberculosis</i> Primary Panel	0060347
Antimicrobial Susceptibility—Fastidious Organism	0060345
Antimicrobial Susceptibility—Gram Positive Rod	0060346
Antimicrobial Susceptibility—MIC, Individual	0060201
Antimicrobial Susceptibility—Not Otherwise Specified	0060200
<i>Coccidioides immitis</i> Identification by DNA Probe	0062225
Fungal (Mould) Identification	0060163
Organism Identification by 16S rDNA Sequencing	0060720



CATEGORY A MICROORGANISMS

UN 2814—Infectious Substance Affecting Humans	
<i>Bacillus anthracis</i> (cultures only)	Japanese encephalitis virus (cultures only)
<i>Brucella abortus</i> (cultures only)	Junin virus
<i>Brucella melitensis</i> (cultures only)	Kyasanur Forest disease virus
<i>Brucella suis</i> (cultures only)	Lassa virus
<i>Burkholderia mallei</i> — <i>Pseudomonas mallei</i> —glanders (cultures only)	Machupo virus
<i>Burkholderia pseudomallei</i> — <i>Pseudomonas pseudomallei</i> (cultures only)	Marburg virus
<i>Chlamydia psittaci</i> —avian strains (cultures only)	Monkeypox virus
<i>Clostridium botulinum</i> (cultures only)	<i>Mycobacterium tuberculosis</i> (cultures only)
<i>Coccidioides immitis</i> (cultures only)	Nipah virus
<i>Coxiella burnetii</i> (cultures only)	Omsk hemorrhagic fever virus
Crimean-Congo hemorrhagic fever virus	Polio virus (cultures only)
Dengue virus (cultures only)	Rabies virus (cultures only)
Eastern equine encephalitis virus (cultures only)	<i>Rickettsia prowazekii</i> (cultures only)
<i>Escherichia coli</i> , verotoxigenic (cultures only)	<i>Rickettsia rickettsii</i> (cultures only)
Ebola virus	Rift Valley fever virus (cultures only)
Flexal virus	Russian spring-summer encephalitis virus (cultures only)
<i>Francisella tularensis</i> (cultures only)	Sabia virus
Guanarito virus	<i>Shigella dysenteriae</i> type 1 (cultures only)
Hantaan virus	Tick-borne encephalitis virus (cultures only)
Hantavirus causing hemorrhagic fever with renal syndrome	Variola virus
Hendra virus	Venezuelan equine encephalitis virus (cultures only)
Hepatitis B virus (cultures only)	West Nile virus (cultures only)
Herpes B virus (cultures only)	Yellow fever virus (cultures only)
Human immunodeficiency virus (cultures only)	<i>Yersinia pestis</i> (cultures only)
Highly pathogenic avian influenza virus (cultures only)	





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