



TRANSPORT

SPECIMEN TRANSPORTATION
INSTRUCTIONS



ARUP LABORATORIES

ARUP Laboratories is a nonprofit national clinical and anatomic pathology reference laboratory. ARUP processes more than 55,000 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, eight airlines operate hundreds of 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 teams. A representative from a contract courier in the client's area picks 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.

As the most responsive source of quality information and knowledge, ARUP strives to be the reference laboratory of choice for community healthcare systems. ARUP helps its clients meet the customized needs of their unique communities. We believe in collaborating, sharing knowledge, and contributing to laboratory science in ways that provide the best value for the patient. **Together, ARUP and its clients will improve patient care today and in the future.**

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 may be returned to the client upon request.

ARUP STANDARD TRANSPORT TUBES

ARUP encourages 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.



15824 Standard Transport Tube with White Cap: For routine serum, plasma, and urine testing



13654 Amber Standard Transport Tube with Cap: For serum, plasma, whole blood, and urine testing that requires light protection



43116 Trace Metal Free Standard Transport Tube with Blue Cap: For heavy-metal serum, plasma, and urine testing



43115 Sterile Standard Transport Tube with Red Cap: For CSF and other testing that requires a sterile specimen

*The College of American Pathologists (CAP) Laboratory General Checklist requires that all primary specimen containers must be labeled with two identifiers at the time of collection to provide unique identification. Examples of acceptable identifiers include, but are not limited to, the following: patient name, date of birth, hospital number, Social Security number, requisition number, accession number, and unique random number (CAP GEN.40491). The Joint Commission National Patient Safety Goals require two ways to identify the patient (Goal 1, NPSG.01.01.01).

SPECIMEN REJECTION/TEST CANCELLATION

Containers that are not preferred but may be accepted:

- Glass tubes for refrigerated and ambient (room temperature) specimens. Glass tubes are not recommended due to the increased risk of broken specimens while in transit **and** the associated safety concerns for those who handle them.
- Tubes that use a pop-top type of cap
- 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
- Polystyrene tubes
- 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 at aruplab.com.

SPECIMEN TRANSPORT 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 and IATA DGR 6.3.5. 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 account executive for information regarding outside testing facilities.



- 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. However, one specimen is sufficient for allergen testing.**
- 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 lid of 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.
- All labels should be in compliance with Clinical and Laboratory Standards Institute (CLSI) guidelines (Auto 12-A).



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. Racks should be used when transporting more than one specimen. Larger transport options are available. Requests can be made through eSupply or by contacting Client Services at clientservices@aruplab.com or 800-522-2787.

i 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 corresponding 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 coming in contact with one another. Alternatively, fragile specimens must be individually wrapped in a specimen bag or with absorbent material.



Each ARUP rack holds 10 tubes.

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 tear-off receipt for clients to keep, 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 also be listed on the tear-off receipt and attached to the client's copy of the packing list or logging system for easy, accurate reference.

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

i If submitting more than one specimen per patient, and if specimens need to be stored and transported at different temperatures, use separate bags and include the patient and specific test(s) on separate and temperature-specific packing lists (or manual requisitions).



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

INSTRUCTIONS FOR CLIENTS USING MANUAL TEST REQUISITIONS

All noninterfaced orders should be placed using ARUP's Connect Order Entry; however, when this is not possible, manual test requisitions 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 the 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. The specimen container must have the patient's first and last name and unique identifier and specimen type or source clearly indicated on it.
6. Keep a copy of the form for your records and retain the bag-identification tear-off receipt.

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

i Manual requisitions and their associated specimens must be submitted in separate ARUP temperature-specific bags.

INSTRUCTIONS FOR CLIENTS USING INTERFACES OR CONNECT ORDER ENTRY

1. Generate a specimen packing list; a client number and temperature must appear on the packing list in addition to the collection date and time.
2. The specimen container must have the patient's first and last name and unique identifier and specimen type or source clearly indicated on it.
3. Match specimens to entries on the packing list to ensure there is a specimen for each test ordered and for each temperature requirement. Write the corresponding number from the specimen transport rack on the packing list next to the specimen.

i Interface orders and Connect orders must be submitted in separate ARUP temperature-specific bags.

! If specimens are shared between in-house and sendout vendor labs, in-house tests are always performed first.

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: Category B (biological substance) or Category A (infectious substance).
2. Determine the optimal temperature that contains the longest stability at which the specimen must be maintained during transit using instructions for individual tests listed in the ARUP Laboratory Test Directory at aruplab.com/testing.

i Room temperature (ambient) specimens received with gel packs may be placed on Except for suspicion of refrigerated temperatures during transit.

DOT AND IATA REQUIREMENTS

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 (ARUP-specific requirement).
- 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.



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

BIOLOGICAL SUBSTANCE, CATEGORY B, PACKING INSTRUCTIONS

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.

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; 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 tear-off receipt from the color-coded bag and keep for your records.
6. Place bag in appropriate temperature location for courier pick up.



INFECTIOUS SUBSTANCE, CATEGORY A, PACKING INSTRUCTIONS

Infectious Substances, Category A, are infectious substances that are known or 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. Refer to IATA Dangerous Goods Regulations, Table 3.6.D.

Only specimens that meet the criteria for inclusion as a Category A substance must be shipped as infectious substance. If there is reasonable suspicion that a substance meets the criteria, it must be included in Category A (IATA 3.6.2.2.1(b)2).

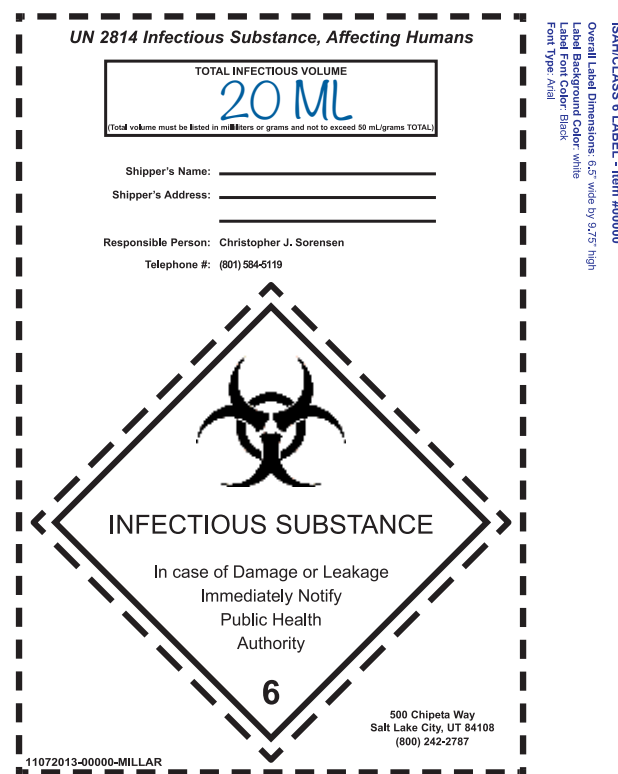
Cultures (laboratory stocks) are the result of a process by which pathogens are amplified or propagated in order to generate high concentrations, thereby increasing the risk of infection when exposure to them occurs. This definition refers to cultures prepared for the intentional generation of pathogens 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 account executive.
2. Obtain a 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.

5. Locate the packet that consists of the Shipper's Declaration for Dangerous Goods form (see Example B, page 11) and one Combo Class 6/ ISAH label (see Example A).
6. Indicate the combined volume of specimen(s) being sent (see Example A).
7. Place the pressure container into the green color-coded specimen bag. Completely fill out the information on the outside of the bag. Remove the tear-off receipt from the bag for your tracking records.
8. Place the Combo Class 6/ISAH label and Shipper's Declaration for Dangerous Goods form in the outside pouch of the green color-coded specimen bag so that the red candy stripe is clearly visible for the courier.
9. Place the green color-coded bag in the appropriate temperature location for courier pick-up.

Example A



INFECTIOUS SUBSTANCE SHIPPING SUPPLIES

ARUP offers pressurized secondary containers that are used for the inner packaging of infectious substances. **Use only containers provided by ARUP.**

- **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. Place the secondary container in the green color-coded bag.

DOT AND IATA TRAINING REQUIREMENTS FOR SHIPPING INFECTIOUS SUBSTANCES

When preparing and shipping infectious substances, be sure to package and ship each specimen properly. Complying with the regulations set forth by the DOT and 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, and the person packing the shipment is the client's designated employee, the client is the shipper. If the courier ships specimens, the client is required to mark the **Combo Class 6/ISAH label** (see Example A, page 8) with the total volume of specimens being shipped, and the courier packs the shipment and becomes the shipper.



Reading the shipping instructions within this brochure is not sufficient to satisfy 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 the ARUP National Transportation Department at 800-242-2787 ext. 2107.

HOW TO FILL OUT THE DECLARATION FOR DANGEROUS GOODS FORM

Information in **red** will be preprinted by ARUP on the Shipper's Declaration for Dangerous Goods for Infectious Substances form (see Example B on page 11).

1. **Shipper:** Enter the full name and address of the shipper. If the client prepares the shipment, the client is the shipper. If an approved ARUP courier receives a properly labeled specimen to tender on behalf of the client, the courier is the shipper.
2. **Consignee:** Enter the full name and address of the consignee (ARUP).
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:
 - a. **UN or ID no.:** Enter UN 2814 for the specimens.
 - b. **Proper shipping name:** Enter Infectious Substance, Affecting Humans. Example: Suspected Category A Infectious Substance. Do not enter any other technical name (genus or species).
 - c. **Class or division:** Enter the number 6.2 for the infectious substance.
 - d. **Packing group:** Enter nothing on the line for the specimen.
 - e. **Quantity and type of packing:** Enter the total volume of specimens of the infectious substance within the shipping container.
 - f. **Packing instruction:** Enter the number 620 for the specimens.
 - g. **Authorization:** Leave blank. You may no longer ship a quantity of blood or blood product larger than 50 mL.
 - h. **Additional handling information:** A telephone number answered 24/7 must be provided. Indicate "24-hour number: ARUP Shipment Tracking 800-242-2787 ext. 2107."
8. **Name and title of signatory:** Enter the name of the person who is signing the declaration. Enter the date the declaration form is signed. The shipper must sign the declaration, and the signature must be written by hand and not typed.

i The **Shipper's Declaration for Dangerous Goods** (provided by ARUP) includes four copies. Three copies should be sent with the shipment, and one copy must be retained by the shipper for two years.

Example B

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper **1** Air Waybill No. **3**
 Page **1** of **1** Pages **4**
 Shipper's Reference Number: (optional)

Consignee:
ARUP Laboratories
500 Chipeta Way **2**
Salt Lake City, Utah 84108
(800) 242-2787, ext. 2107

Two completed and signed copies of this Declaration must be handed to the operator.

ARUP LABORATORIES
FX-18 RECOGNIZED

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)
 PASSENGER AND CARGO AIRCRAFT CARGO AIRCRAFT ONLY

Airport of Departure **5**

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.

Airport of Destination: **Salt Lake City, Utah** **6** Shipment type: (delete non-applicable)
 NON-RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS **7**

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group	Quantity and type of packing	Packing Inst.	Authorization
UN 2814 7a	Infectious substance, affecting humans (Suspected Category A, Infectious Substance) 7b	6.2 7c	 7d	1 PLASTIC BOX 7e Total Volume _____ mL	620 7f	 7g

Additional Handling Information **7h**
Responsible Party:
 ARUP Shipment Tracking
 (800) 242-2787, ext. 2107

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 the applicable International and National Government Regulations. I declare that all of the applicable air transport requirements have been met.

Name/Title of Signatory **8**
 Place and Date
 Signature (see warning above)

FOR OFFICIAL ARUP USE
Place Shipping Label Here

A copy of this paperwork must be retained for two years.

FIRST / SECOND COPY - CARRIER THIRD COPY - CONSIGNEE FOURTH COPY - SHIPPER

INSTRUCTIONS FOR CLIENTS PACKING AND SHIPPING THEIR OWN INFECTIOUS SUBSTANCES

1. Place the pressure vessel in the color-coded bag.
2. Fill out the **Combo Class 6/ISAH label** (see Example A, page 8). The technical name is not required on this label. Total volume of the infectious specimen being shipped must be on the **Combo Class 6/ISAH 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, they will fill out this section.
3. Place one **Combo Class 6/ISAH label** (see Example A, page 8) on the outer packaging (ARUP yellow shipping container) covering the UN3373 and dry ice label.
4. Make sure to place cushioning material such as the foam plug on top of the specimens inside the shipping container.
5. Seal the shipping container by folding and securing the flaps.
6. Complete the **Shipper's Declaration for Dangerous Goods** form (see Example B, page 11, 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, below and Example D, page 14) and place it, along with a copy of the **Shipper's Declaration for Dangerous Goods** form, on the shipping container.

Example C



CAT A Specimens

6 Special Handling and Delivery Signature Options

SATURDAY Delivery Priority Alert Plus
FedEx may take additional measures, if needed, to preserve the package integrity. See options.

No Signature Required Direct Signature Indirect Signature
Package may be left without obtaining a signature for delivery. Someone at recipient's address may sign for delivery. For options, see options. If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. See options.

Does this shipment contain dangerous goods?
See box must be checked.

No Yes Dry Ice Cargo Aircraft Only
Yes: Dry Ice: UN 1845, 1 kg max per attached Shipper's Declaration. Shipper's Declaration not required. Dangerous goods including dry ice cannot be shipped in FedEx packaging or placed in a FedEx Express Ship Box.

CAT B Specimens and Dry Ice

6 Special Handling and Delivery Signature Options

SATURDAY Delivery Priority Alert Plus
FedEx may take additional measures, if needed, to preserve the package integrity. See options.

No Signature Required Direct Signature Indirect Signature
Package may be left without obtaining a signature for delivery. Someone at recipient's address may sign for delivery. For options, see options. If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. See options.

Does this shipment contain dangerous goods?
See box must be checked.

No Yes Dry Ice Cargo Aircraft Only
Yes: Dry Ice: UN 1845, 1 4.4 kg max per attached Shipper's Declaration. Shipper's Declaration not required. Dangerous goods including dry ice cannot be shipped in FedEx packaging or placed in a FedEx Express Ship Box.

WHEN SHIPPING VIA FEDEX

FedEx is the preferred carrier for all specimen shipments. ARUP's contract with FedEx Priority Alert ensures the timely delivery of specimens at ARUP. Clients and couriers should use the following address for FedEx shipments:

Attn: Specimen Processing
 ARUP Laboratories
 500 Chipeta Way
 Salt Lake City, UT 84000

Using this address allows for expedited specimen delivery to ARUP. Packages shipped to the main ARUP facility address at ZIP code 84108 are delayed at the FedEx sorting facility and arrive later in the morning than those shipped to the address listed above. **Please double-check that the 84000 ZIP code is listed correctly on your shipment; providing accurate ZIP code information is integral for proper sorting by FedEx.**

If sending a specimen to a person or department other than Specimen Processing, please put the following:

Attn: Specimen/(Insert department or recipient's name)
 ARUP Laboratories
 500 Chipeta Way
 Salt Lake City, UT 84000

1. Fill in the shipper 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 **6 Special Handling** (see examples, page 12):
 - 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.

3. Enter the number of boxes being sent and the weight of the boxes in the appropriate section.
 - If shipping frozen specimens with dry ice, please check the Priority Alert Plus checkbox. This allows for FedEx to add ice if shipment is delayed in transit. Only select this option if the box has dry ice in it.
 - Also check the dry ice checkbox and indicate one box at whatever the weight of dry ice that is being used. It is recommended to pack 2.5–5.0 kgs.
4. Attach the air waybill by removing the adhesive tape protection off the plastic pouch and applying the pouch to the shipping container. Place air waybill into the pouch.
5. Retain the top copy of the air waybill as a record of the shipment.
6. 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 and box 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 FedEx on Saturday will not be delivered until Monday. If specimens are shipped on Friday, the air waybill must be marked for Saturday delivery or the shipment will not be delivered until Monday.

WHEN SHIPPING VIA THE AIRLINES

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 Example D), a description of the contents of the shipment must be listed.
 - For Category B specimens, write UN3373, Biological Substance, Category B. If dry ice is used, include DRY ICE, class 9, UN 1845, 2.5 kg.
 - For Category A specimens, write Medical Specimens (Infectious). Also include in the handling information: Dangerous goods as per attached shipper's declaration.
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 volume of the organism(s) being shipped.



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

Some regional carriers do not transport specimens identified as Category B, which contain dry ice and/or infectious substances, on their aircraft. In those cases, priority mail such as FedEx must be used.

Example D

CAT B Specimens

Quantity	UN No.	Description	Net Weight	Net Volume	Temperature	Special Handling
	UN3373	Biological Substance, CAT B				
	UN1845	DRY ICE, Class 9, 2.2kg				

CAT A Specimens

Quantity	UN No.	Description	Net Weight	Net Volume	Temperature	Special Handling
		Medical Specimens (infectious)				

QUICK REFERENCE REVIEW

1. Identify specimen(s) to be sent to ARUP.
2. Determine the infectious nature of each specimen using the definitions provided.

Instructions for Biological Substances, Category B:

- Order the appropriate test using an interface, Connect Order Entry, or manual requisition.
- If using an interface or Connect Order Entry, print out a packing list for each temperature and rack and bag these specimens separately. Do the same for all manual test requisitions.
- 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.
- For refrigerated specimens, layer at least two refrigerated gel packs with specimens in the container. For frozen specimens, pack with 5.5 pounds (2.5 kg) of pelletized or broken dry ice. When shipping with FedEx, add an extra 5.5 pounds of dry ice, totaling 11 pounds (5.0 kg).

Instructions for Infectious Specimens, Category A:

- Order the appropriate test using an interface, Connect Order Entry, or manual requisition.
- If using an interface or Connect Order Entry, print out a packing list and bag these specimens separately. Do the same for all manual test requisitions.
- 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 medium plastic pressure container. A Declaration of Dangerous Goods form and a Combo Class 6/ISAH label will need to accompany each container. The Declaration of Dangerous Goods form must be clearly visible to the courier picking up the specimens for appropriate shipping. When a courier is picking up the shipment, the client is only responsible for filling out the top portion of the Combo Class 6/ ISAH label, noting 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 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 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 is not considered infectious, it DOES NOT need a Shipper's Declaration for Dangerous Goods form. Infectious substances are listed on the next page.

UN 2814—INFECTIOUS SUBSTANCE AFFECTING HUMANS

Organisms in this list should not be sent to ARUP unless approved for ARUP testing, as indicated in the table on page 17. Refer to your specific state public health lab for specific instructions.

<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 (Pseudomonas) mallei</i> - glanders (cultures only)	Machupo virus
<i>Burkholderia (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	Tickborne 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)	

* The West African clade of monkeypox virus can be sent to ARUP for testing as it does not meet the criteria for Category A Infectious Substances. Do not send specimens in cases of suspected Central African (Congo basin) clade.

CATEGORY A, INFECTIOUS SUBSTANCE, ARUP TESTS

The following list of tests is 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. The following category A microorganism isolates should be shipped as infectious substances and be labeled as Suspected Category A, Infectious Substance.

Antimicrobial Susceptibility, AFB/ <i>Mycobacterium tuberculosis</i> Primary Panel	0060347
<i>Coccidioides immitis</i> Identification	0062225

i All cultured *M. tuberculosis* complex requires CAT A shipping.

Per IATA 3.6.2.2.1(b) "Assignment to UN 2814 or UN 2900 must be based on the known medical history and symptoms of the source human or animal, endemic local conditions, or professional judgement concerning individual circumstances of the source human or animal." The following tests may require submission of a Category A specimen based on your knowledge of patient history or circumstance. These tests may be considered Category A if they contain isolates in the form found on page 16.

Aerobic Organism Identification	0060115
Aerobic Organism Identification with Reflex to Susceptibility	0065070
Acid-Fast Bacillus (AFB) Identification	0060999
AFB Identification with Reflex to Susceptibility	0060997
Antimicrobial Susceptibility, AFB/Mycobacteria	0060217
Antimicrobial Susceptibility -Fastidious Organism	0060345
Antimicrobial Susceptibility - Gram Positive Rod	0060346
Antimicrobial Susceptibility - MIC, Individual	0060201
Antimicrobial Susceptibility - Not Otherwise Specified	0060200
Fungal (Mold/Yeast) Identification	0060163
Organism Identification by 16S rDNA Sequencing	0060720



aruplab.com | arupconsult.com

ARUP LABORATORIES

500 Chipeta Way
Salt Lake City, UT 84108-1221
Phone: 800-522-2787
Fax: 801-583-2712
aruplab.com

*ARUP is a nonprofit enterprise of the University of Utah
and its Department of Pathology.*

ARUP-INFO-0008, Rev 5, April 2025
© 2025 ARUP Laboratories