



# Specimen Collection and Preparation Guide

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## Blood Specimens

### Step 1: Determine the Specimen Requirements

In the [Test Catalog](#), use the **Specimen** and **Overview** tabs of each test to identify:

- Patient preparation requirements
- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Collection instructions
- Required forms or special instructions

### Step 2: Collect the Specimen




Most laboratory tests are performed on anticoagulated plasma, serum, or whole blood. Follow the instructions in the test to collect the specimen, paying special attention to container/tube, volume, and stability (temperature) requirements.

### Step 3: If Appropriate, Pour the Specimen into an Aliquot Tube or Bottle

Check the specimen requirements in the [Test Catalog](#) to see if your specimen requires any of the following:

- **Aliquotting:** Most specimens require aliquotting in an appropriate container to maintain specimen integrity. If you are not aliquotting, wrap the specimen in a bubble bag ([T055](#)) to protect from breakage.
- **Light protection:** Some specimens require light protection to ensure specimen integrity. Check the list of [Light Protection Tests](#) before packaging your specimen.

Mayo Medical Laboratories supplies the following tubes, which have met DOT and IATA leak-proof requirements.\*

		
<p><a href="#">T465</a> <b>Clear Aliquot Tube</b></p> <p>Standard polypropylene tube for serum and plasma specimens. Preferred tube for most specimens.</p>	<p><a href="#">T192</a> <b>Amber Aliquot Tube</b></p> <p>Amber-colored polypropylene tube to prevent analyte degradation from exposure to light.</p>	<p><a href="#">T485</a> <b>Sterile Aliquot Tube</b></p> <p>Sterile tube for use when maintaining sterility is critical.</p>

\*The primary receptacle must be leak-proof and must not contain more than 1 liter (shipping requirement). It must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C.

## Step 4: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)
- Date of birth

## Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

## Step 5: Package the Specimen in a Biohazard Bag



[T229](#) Refrigerate Specimen Bag - pink

[T027](#) Ambient Specimen Bag - white

[T121](#) Frozen Specimen Bag - yellow

Place the tube or container in a Mayo Medical Laboratories color-coded (temperature-specific) shipping bag.



[T043](#) Biohazard Bag - 12x15

Use if your container is too large for color-coded bags. Mark it Frozen, Refrigerate, or Room Temp (Ambient).

### Electronic Clients:

- Clients who submit electronic orders will have a batch order. Place all specimens for the temperature-specific batch number into one bag. If all the specimens do not fit, use a larger biohazard bag ([T043](#)) and indicate the shipping temperature.
- **Do not** place multiple batches into one bag.

If you are not using a bag supplied by Mayo Medical Laboratories:

- The bag must be leak-proof.
- There must be absorbent material between the primary receptacle (tube/container) and the secondary packaging (bag) that is able to absorb the entire contents of the bag.

- Wrap any breakable tubes individually in bubble wrap ([T055](#)).

## Step 6: Package Batch Sheets and Forms



Folded batch sheet with bar code and delivery address visible

### Electronic Clients

Clients who submit electronic orders will have a batch sheet. The bottom of the batch sheet lists the number of pages (for example, 1 of 3). Fold the batch sheets into fourths and place them in the outside pocket of the bag. If there is no pocket, place them inside the bag with the specimens. Include all pages in the corresponding bag. The delivery address and bar code, if applicable, must be visible. **Do Not** combine multiple batches into one bag.

### Manual Clients

Clients who do not order electronically must include a completed Test Request form with each patient specimen. Our [Customized Test Request Form](#) generator provides the Test Request form and all other required forms for the specified test. Complete and print all forms included; then fold and insert the forms into the outside pocket of the biohazard bag. If there is no pocket, place the forms inside the bag with the specimen.

## Urine Specimens

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### Step 1: Determine the Specimen Requirements

In the [Test Catalog](#), use the **Specimen** and **Overview** tabs of each test to identify:

- Patient preparation requirements
- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Collection instructions
- Required forms or special instructions
- Whether a preservative must be added at the start of the collection. See the [Urine Preservatives Chart](#) for conditions and concentrations of urine preservatives.

### Step 2: Give Urine Collection Instructions to the Patient (24-hour Collections)

If a 24-hour collection is required, print the [24-Hour Urine Collection Instructions](#) for the patient.

When you give the instructions and 24-hour collection container to the patient, review:

- Collection duration

## Specimen Collection and Preparation Guide

- Diet requirements
- Potentially hazardous preservatives in collection container
- Storage of the specimen until it is returned

### Step 3: Pour the Specimen into an Aliquot Tube or Bottle

Mix well before aliquotting.

- Send urine aliquots in the following leak-proof containers only. Other containers could leak and compromise the specimen.
- Some specimens require light protection to ensure specimen integrity. Check the list of [Light Protection Tests](#) before packaging your specimen, and use amber containers to prevent analyte degradation due to exposure to light (for 24-hour collections).

		
<b><a href="#">T068</a> Urine Tube, 13 mL</b>	<b><a href="#">T313</a> Urine Container, 60 mL</b>	<b><a href="#">T596</a> Urine Container, Amber, 60 mL</b>
Standard aliquot tube for random collection.	Standard aliquot container for 24-hour collection.	Aliquot tube for 24-hour collections when testing for light-sensitive analytes.

### Step 4: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)
- Date of birth

### Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

## Step 5: Package the Specimen in a Biohazard Bag



Place the tube or container in a Mayo Medical Laboratories color-coded (temperature-specific) shipping bag.

[T229](#) Refrigerate Specimen Bag - pink

[T027](#) Ambient Specimen Bag - white

[T121](#) Frozen Specimen Bag - yellow



[T043](#) Biohazard Bag - 12x15

Use if your container is too large for color-coded bags. Mark it Frozen, Refrigerate, or Room Temp (Ambient).

### Electronic Clients:

- Clients who submit electronic orders will have a batch order. Place all specimens for the temperature-specific batch number into one bag. If all the specimens do not fit, use a larger biohazard bag ([T043](#)) and indicate the shipping temperature.
- **Do not** place multiple batches into one bag.

If you are not using a bag supplied by Mayo Medical Laboratories:

- The bag must be leak-proof.
- There must be absorbent material between the primary receptacle (tube/container) and the secondary packaging (bag) that is able to absorb the entire contents of the bag.
- Wrap any breakable tubes individually in bubble wrap ([T055](#)).

## Step 6: Package Batch Sheets and Forms



Folded batch sheet with bar code and delivery address visible

### Electronic Clients

Clients who submit electronic orders will have a batch sheet. The bottom of the batch sheet lists the number of pages (for example, 1 of 3). Fold the batch sheets into fourths and place them in the outside pocket of the bag. If there is no pocket, place them inside the bag with the specimens. Include all pages in the corresponding bag. The delivery address and bar code, if applicable, must be visible. **Do Not** combine multiple batches into one bag.



## Manual Clients

Clients who do not order electronically must include a completed Test Request form with each patient specimen. Our [Customized Test Request Form](#) generator provides the Test Request form and all other required forms for the specified test. Complete and print all forms included; then fold and insert the forms into the outside pocket of the biohazard bag. If there is no pocket, place the forms inside the bag with the specimen.

## Stool Specimens

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### Step 1: Determine the Specimen Requirements

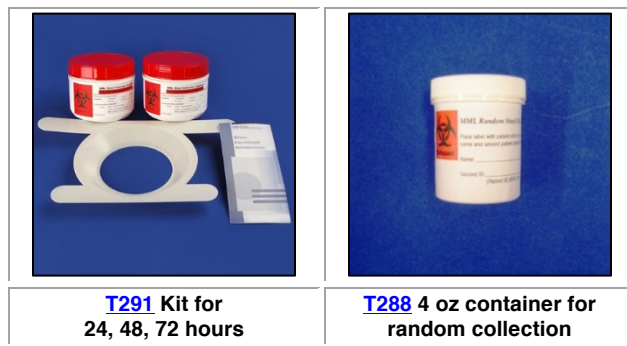
In the [Test Catalog](#), use the **Specimen** and **Overview** tabs of each test to identify:

- Patient preparation requirements
- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Collection instructions
- Required forms or special instructions

### Step 2: Provide Acceptable Containers

Containers must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C.

Mayo Medical Laboratories supplies containers for fecal specimen collection and processing:



Supplied containers have the following label affixed:



The image shows a label for an MML Stool Collection Container. On the left is a red biohazard symbol with the word "Biohazard" below it. The main label area is white with black text. At the top, it says "MML Stool Collection Container" and "Only Fill Container to this Line" with a red line indicating the fill level. Below this, it says "Complete ALL collection information below:" and "Duration:  24 hrs  48 hrs  72 hrs  Indom  Other". There is a line for "Other". Below that, it says "Is this the entire collection?  Yes  No". A yellow box highlights "If No, this is container # \_\_\_ of \_\_\_ (i.e., 1 of 3)". To the right, it says "Place label with patient information here or write name below:" and has a large empty box. At the bottom left, it says "REQUIRED - Strip all containers from this collection at the same time!" and at the bottom right, "MML-235-33/w/1127".

### Unacceptable Containers

**Do not** send specimens in unapproved containers due to potential shipping problems. Use Mayo Medical Laboratories containers to avoid courier rejection and transportation delays.

### Step 3: Give Stool Collection Instructions to the Patient

Print the [Stool Collection Instructions](#) for the patient.

When you give the instructions and container to the patient:

1. Place a label with the patient information on the container or write the patient name on the label.
2. Review with the patient:
  - Collection duration
  - Diet requirements
  - Storage of the specimen until it is returned
  - Do not fill any container more than 3/4 full (to the indicated line on the label)
  - Provide Mayo Medical Laboratories containers for a timed collection
  - How to obtain additional containers from you if necessary

**Note:** The collection kit comes with an instruction brochure for the patient.

### Step 4: After Collection, Complete the Label

When the patient returns the container to you, complete the following information on the label affixed to the container:

1. In the Duration section of the label, mark the collection duration. If the timed duration is other than those listed, check "other" and list the duration on the line provided.
2. Indicate whether the entire collection is contained in one container or in multiple containers. If multiple containers, indicate the number of each container (for example, 1 of 3).

### Step 5: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)

- Date of birth

### Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

### Step 6: Package the Specimen in a Biohazard Bag



[T043](#) Biohazard Bag

Place the specimen container in a Mayo Medical Laboratories 12x15 biohazard plastic shipping bag ([T043](#)). This bag contains material capable of absorbing the full liquid content of the specimens inside.

Mark the appropriate temperature on the bag: Frozen, Refrigerate, or Room Temp (Ambient).

If you are not using a bag supplied by Mayo Medical Laboratories:

- The bag must be leak-proof.
- There must be absorbent material between the primary receptacle (tube/container) and the secondary packaging (bag) that is able to absorb the entire contents of the bag.

### Packaging Multiple Specimens

When a stool test is listed on the temperature batch number with other specimens, the stool container must be bagged separately from other specimens.

Make a copy of the batch page listing the stool test and enclose it with the stool specimen in the bag. The remaining specimens and temperature batch number pages should be bagged together.

## Step 7: Package Batch Sheets and Forms



Folded batch sheet with bar code and delivery address visible

### Electronic Clients

Clients who submit electronic orders will have a batch sheet. The bottom of the batch sheet lists the number of pages (for example, 1 of 3). Fold the batch sheets into fourths and place them in the outside pocket of the bag. If there is no pocket, place them inside the bag with the specimens. Include all pages in the corresponding bag. The delivery address and bar code, if applicable, must be visible. **Do Not** combine multiple batches into one bag.

### Manual Clients

Clients who do not order electronically must include a completed Test Request form with each patient specimen. Our [Customized Test Request Form](#) generator provides the Test Request form and all other required forms for the specified test. Complete and print all forms included; then fold and insert the forms into the outside pocket of the biohazard bag. If there is no pocket, place the forms inside the bag with the specimen.

## Microbiology Specimens

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### Step 1: Determine the Specimen Requirements

In the [Test Catalog](#), use the **Specimen** and **Overview** tabs of each test to identify:

- Patient preparation requirements
- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Collection instructions
- Required forms or special instructions

Containers must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C.

### Step 2: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)

- Date of birth

### Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

### Step 3: Package the Specimen in a Biohazard Bag



Place the tube or container in a Mayo Medical Laboratories color-coded (temperature-specific) shipping bag.

[T229](#) Refrigerate Specimen Bag - pink

[T027](#) Ambient Specimen Bag - white

[T121](#) Frozen Specimen Bag - yellow



#### Electronic Clients:

- Clients who submit electronic orders will have a batch order. Place all specimens for the temperature-specific batch number into one bag. If all the specimens do not fit, use a larger biohazard bag ([T043](#)) and indicate the shipping temperature.
- **Do not** place multiple batches into one bag.

[T043](#) Biohazard Bag - 12x15

Use if your container is too large for color-coded bags. Mark it Frozen, Refrigerate, or Room Temp (Ambient).

If you are not using a bag supplied by Mayo Medical Laboratories:

- The bag must be leak-proof.
- There must be absorbent material between the primary receptacle (tube/container) and the secondary packaging (bag) that is able to absorb the entire contents of the bag.
- Wrap any breakable tubes individually in bubble wrap ([T055](#)).

## Step 4: Package Batch Sheets and Forms



Folded batch sheet with bar code and delivery address visible

### Electronic Clients

Clients who submit electronic orders will have a batch sheet. The bottom of the batch sheet lists the number of pages (for example, 1 of 3). Fold the batch sheets into fourths and place them in the outside pocket of the bag. If there is no pocket, place them inside the bag with the specimens. Include all pages in the corresponding bag. The delivery address and bar code, if applicable, must be visible. **Do Not** combine multiple batches into one bag.

### Manual Clients

Clients who do not order electronically must include a completed Test Request form with each patient specimen. Our [Customized Test Request Form](#) generator provides the Test Request form and all other required forms for the specified test. Complete and print all forms included; then fold and insert the forms into the outside pocket of the biohazard bag. If there is no pocket, place the forms inside the bag with the specimen.

## Microbiology Organisms

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### Step 1: Verify That the Specimen is a Microbiological Actively Growing, Pure Culture

In the [Test Catalog](#), use the **Specimen** tab and the **Clinical and Interpretive** tab of each test to identify:

- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Required forms or special instructions

Containers must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40C to 55C.

**Note:** Mayo Medical Laboratories does not accept culture plates. You must subculture organisms onto a slant prior to submitting the specimen for testing.

## Step 2: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)
- Date of birth

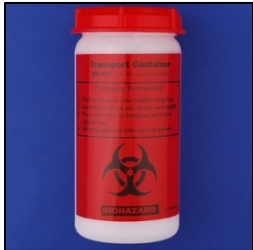
## Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

## Step 3: Place the Culture in a Secondary Leak-Proof Container

Containers must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C.



[T146](#) Infectious Container

The Infectious Container ([T146](#)) is leak-proof and includes bubble wrap (to prevent breakage) and an absorbent material inside. If multiple microbiology specimens are sent, each specimen must be transported in its own container.

## Step 4: Package the Specimen in a Biohazard Bag



[T229](#) Refrigerate Specimen Bag - pink  
[T027](#) Ambient Specimen Bag - white  
[T121](#) Frozen Specimen Bag - yellow

Place the tube or container in a Mayo Medical Laboratories color-coded (temperature-specific) shipping bag.





## Step 6: Place a Blue "C" Culture Label on the Bag



Verify that your test appears on the [Microbiology Culture Test List](#). Place a blue "C" culture label ([T549](#)) on the shipping bag to identify it as an actively growing culture.

**Note:** It is also acceptable to place the C sticker on the batch sheet, making sure the C sticker shows through the bag when the batch sheet is folded.

Biohazard bag with two containers, folded batch sheet with bar code visible, and C sticker.

## Special Collections

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### Step 1: Determine the Specimen Requirements

In the [Test Catalog](#), use the **Specimen** and **Overview** tabs of each test to identify:

- Patient preparation requirements
- Specimen requirements
- Specimen container requirements
- Specimen stability (temperature) requirements
- Collection instructions
- Required forms or special instructions

Containers must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C.

### Step 2: Collect the Specimen

Follow the instructions in the test to collect the specimen, paying special attention to container/tube, volume, and stability (temperature) requirements.

### Step 3: Label the Specimen

Specimens must have **two person-specific identifiers** on the patient label. Person-specific identifiers include:

- Accession number
- Patient's first and last name
- Unique identifying number (for example, medical record number)
- Date of birth

## Mislabeled Specimens

Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and the information accompanying the specimen. This information might include a computer system, requisition form, or additional paperwork.

In addition, if a handwritten name and a label are on the container, the information must match exactly. For example, "Rebecca" does not match "Becky." When insufficient or inconsistent identification is submitted, a new specimen may be required.

## Step 4: Package the Specimen in a Biohazard Bag



Place the tube or container in a Mayo Medical Laboratories color-coded (temperature-specific) shipping bag.

- [T229](#) Refrigerate Specimen Bag - pink
- [T027](#) Ambient Specimen Bag - white
- [T121](#) Frozen Specimen Bag - yellow



### Electronic Clients:

- Clients who submit electronic orders will have a batch order. Place all specimens for the temperature-specific batch number into one bag. If all the specimens do not fit, use a larger biohazard bag ([T043](#)) and indicate the shipping temperature.
- **Do not** place multiple batches into one bag.

### [T043](#) Biohazard Bag - 12x15

Use if your container is too large for color-coded bags. Mark it Frozen, Refrigerate, or Room Temp (Ambient).

If you are not using a bag supplied by Mayo Medical Laboratories:

- The bag must be leak-proof.
- There must be absorbent material between the primary receptacle (tube/container) and the secondary packaging (bag) that is able to absorb the entire contents of the bag.
- Wrap any breakable tubes individually in bubble wrap ([T055](#)).

## Step 5: Package Batch Sheets and Forms



Folded batch sheet with bar code and delivery address visible

### Electronic Clients

Clients who submit electronic orders will have a batch sheet. The bottom of the batch sheet lists the number of pages (for example, 1 of 3). Fold the batch sheets into fourths and place them in the outside pocket of the bag. If there is no pocket, place them inside the bag with the specimens. Include all pages in the corresponding bag. The delivery address and bar code, if applicable, must be visible. **Do Not** combine multiple batches into one bag.

### Manual Clients

Clients who do not order electronically must include a completed Test Request form with each patient specimen. Our [Customized Test Request Form](#) generator provides the Test Request form and all other required forms for the specified test. Complete and print all forms included; then fold and insert the forms into the outside pocket of the biohazard bag. If there is no pocket, place the forms inside the bag with the specimen.

## Contact Information

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For additional information or assistance pertaining to shipping procedures, contact the Mayo Medical Laboratories Transportation Department:

Call US Access Code + 507-266-5700 or + 800-533-1710

Fax US Access Code + 507-284-1790

E-mail [mmltrans@mayo.edu](mailto:mmltrans@mayo.edu).