

Guidelines for Chemical or Radiological Exposure Specimens

This document should be used as a guide to collect, pack, and ship clinical specimens related to a chemical or radiological exposure event to the Public Health Lab at Minnesota Department of Health.

Specimen Collection

Collect the following specimens from each person who may have been exposed. For best results, it is ideal that specimens are collected as soon as possible after the exposure event. For events where a known radiological exposure has occurred with no threat of an unknown chemical exposure, only urine should be collected. Blood should not be collected from pediatric patients unless otherwise advised.

Guidelines for Urine Samples

- Collect at least 25 mL of urine in a screw-capped plastic urine cup (do not overfill).
 - Samples with low volume may be tested.
- Freeze samples as soon as possible (-70°C or dry ice preferred).
 - Samples collected same day do not need to be frozen.
- Samples stored as frozen should be shipped frozen, on dry ice whenever possible.
- Whenever possible, include two empty and unopened urine cups for each lot number to be used as blanks for measuring background contamination.

Guidelines for Blood Samples

- Collect at least 12 mL in purple-top EDTA tubes and at least 3 mL in a green or gray top tube.
 - Do not use clot-activator or serum separator tubes.
 - Label each purple tube in the order collected (e.g. #1, #2, #3, etc.).
 - Samples with low volume may be tested.
- Refrigerate samples as soon as possible.
- Whenever possible, include two empty and unopened tubes for each lot number to be used as blanks for measuring background contamination.

Sample Label Requirements

- Samples should be labeled with the following:
 - Primary ID (e.g., Medical Record Number)
 - Secondary ID (e.g., DOB)
 - Date and time of collection

- Collector's name or initials
- All identifiers on the specimen label should match the submission form.
- When multiple samples are sent with the same Primary ID and Secondary ID, then additional information should be included on the submission form and the specimen label to distinguish the samples (e.g. matrix, collection time and date, order of collection, etc.).

Sample Submission Forms

- Each sample should have a submission form included with the specimens.
- Submission forms can be packaged individually with each sample or packaged together in a plastic bag or envelope.
- Each submission form should include the following:
 - Primary ID
 - Secondary ID
 - Collection Date
 - Collection Time
 - Sample Matrix
 - Signature with time and date

Sample Shipping

- Samples should be delivered by courier, FedEx, or UPS.
- Overnight or same-day delivery is preferred.
- It is recommended that samples are transported frozen, except those that are shipped the day of collection.
- Containers packed in dry ice during shipping is preferred but not required.
- For same day delivery, samples may arrive chilled.
- If overnight delivery, samples should arrive frozen.
- Shipping container should include absorbent and cushioning material to prevent breakage and absorb any leakage.
- Delivery Address:

**Environmental Sample Receiving
Minnesota Department of Health
601 Robert Street North
Saint Paul, MN 55155**

health.phl-environmental-lab@state.mn.us
www.health.state.mn.us/communitues/environment/envlab/index.html

June 2025

To obtain this information in a different format, call: 651-201-5300.