BUREAU OF STATE LABORATORY SERVICES
250 N. 17th Avenue Phoenix, Arizona 85007
Chemistry Office: 602.542.1188 On-Call: 480.303.1676
Jason Mihalic, CT Coordinator

March 04, 2015

Hello First Receiver,

The Arizona Department of Health Services (ADHS) Laboratory Chemical Emergency Response (CT) Section has a responsibility from the CDC for training hospital personnel in the packaging and shipment of clinical samples from patients exposed to possible chemical agents. We are a CLIA certified laboratory providing the following testing free of charge. As the Chemistry Laboratory Response Network (LRN-C) facility for Arizona we are able to test for exposure to the following agents in blood or urine specimens:

- Cyanide
- Tetramine
- Organophosphate Nerve Agents
- Metabolic Toxins
- Pb, Hg, and Cd in Blood
- Be, Cd, Ba, Tl, Pb, U, and As in Urine
- Volatile Organic Compounds
- Ricin (Ricinine)
- Abrin (Abrine)
- Tetranitromethane (HNPAA)
- Lewisite

The ADHS CT section works closely with the Centers for Disease Control and Prevention (CDC) Laboratory Response Network and can facilitate sample shipment to the CDC for additional analytical testing.

Please call the ADHS CT program if you have any questions about the material. We can be reached at:

Susan Runcorn
Chemical Emergency Response Manager
Susan.Runcorn@azdhs.gov
Cell: (602)722-4503, Desk: (602)364-1656

You may find the following URLs useful:

Fillable Chemical Clinical Sample Submission Forms and Chemistry Guide to Laboratory Services
http://www.azdhs.gov/lab/chemistry/index.htm

Laboratory Response Network
http://www.bt.cdc.gov/lrn/

Arizona State Laboratory Services
http://www.azdhs.gov/lab/

Arizona Department of Health Services Specimen-Collection Protocol for a Radiological/Nuclear

For detailed instructions, see the Centers for Disease Control and Prevention's "Shipping Instructions for Specimens Collected from People who may have been contaminated with Radioactive Materials."

For each person, collect 70 mL or more of urine in a screw-cap urine cup by following the steps below:

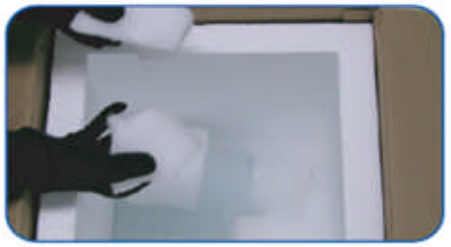
1. Wash hands with soap and water.

2. Collect 70 mL or more of urine in a screw- cap urine cup.

3. Deliver specimen to clinic personnel.

4. Label the urine cup with the appropriate bar-coded label, indicating the method of collection if other than "clean catch."

5. Place bar-coded label on all cups so that when upright, the barcode looks like a ladder.



6. Freeze samples (optimally at -70° C or use dry ice).

For questions concerning this process, please contact:

Centers for Disease Control and Prevention
Sample Logistics Laboratory (IRAT)
4770 Buford Hwy., NE
Building 110, Loading Dock
Atlanta, GA 30341
Office Phone: 770-488-7227
Email: SampleLogistics@CDC.gov

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

10/2010

ADHS Specimen-Collection Protocol for a Chemical-Exposure Event

For detailed instructions see ADHS's *Shipping Instructions for Specimens Collected from People Who May Have Been Exposed to Chemical-Terrorism Agents*.

Collect blood and urine samples for each person involved in the chemical-exposure event.

Note: For children, collect only urine samples unless otherwise directed by ADHS.

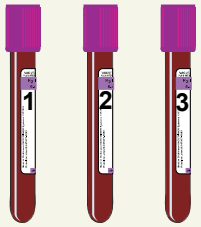
Blood-Sample Collection

For each person, collect blood in glass or plastic tubes in the following order: 1st: collect specimens in three (3) EDTA (purple-top) 4 mL or larger plastic or glass tubes; 2nd: collect another specimen in one (1) gray- or green-top tube. Collect the specimens by following the steps below:

1 Collect a minimum of 12 mL of blood in three (3) 4 mL or larger glass or plastic tubes. If using 3 mL tubes, use four tubes.

Do not use gel separators.

2 Mix contents of tubes by inverting them 5 or 6 times.



Tube #1 Tube #2 Tube #3

Label tubes in order of collection. #1, #2, #3

3 Place bar-coded labels on each tube, so that when the tubes are upright, the barcode looks like a ladder.

Tube #1 Tube #2 Tube #3

Store samples at 1°C to 10°C.
Do not freeze.

4 After collecting samples in the purple-top tubes, collect one (1) sample in a gray- or green-top tube (gray-top tube shown). Allow the tube to fill to its stated capacity.

Do not use gel separators.

5 Mix contents of the tube by inverting it 5 or 6 times.

6 Place bar-coded labels on the tube, so that when the tube is upright, the barcode looks like a ladder.

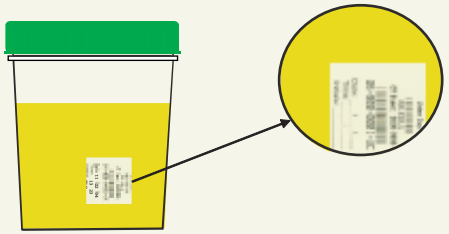
Store samples at 1°C to 10°C.
Do not freeze.

Urine-Sample Collection

For each person, collect 25 mL- 50 mL of urine in a screw-cap urine cup.

Label the urine cup with the appropriate bar-coded label as shown. Indicate on the cup how the sample was collected if the method was other than "clean catch" (i.e., catheterization).

Freeze samples (optimally at -70°C).

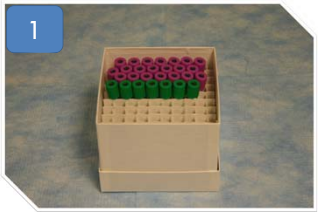


Place bar-coded labels on all cups so that when the cup is upright, the barcode looks like a ladder.

Arizona Department of Health Services

Instructions for Shipping Blood Specimens to Arizona Department of Health Services after a Chemical Exposure Event

Guidance in Accordance with Packaging Instructions International Air Transport Authority (IATA) 650 Biological Substance Category B



Place purple- and green-top tubes by patient number into gridded-type box lined with absorbent pad. If using an alternative packaging method, pack all tubes from the same patient together while preventing tube-to-tube contact.

Seal gridded box or alternative secondary container with one continuous piece of evidence tape. The individual making the seal must initial half on the evidence tape and half on the box or packaging.

Wrap gridded box in an absorbent pad and tape to seal.

Seal gridded wrapped box or alternative container inside a Saf-T-Pak clear inner, leak-proof polybag (or equivalent).

Place the sealed Saf-T-Pak inner leak-proof polybag (or equivalent) inside a white Tyvek outer envelope (or equivalent).

Note: If primary receptacles do not meet the internal pressure requirement of 95 kPa, use compliant secondary packaging materials.

Seal the opening of this envelope with a continuous piece of evidence tape. Write initials half on the evidence tape and half on the envelope.

Use polystyrene foam insulated, corrugated fiberboard shipper to ship boxes to ADHS. Place absorbent material in the bottom of the shipper.

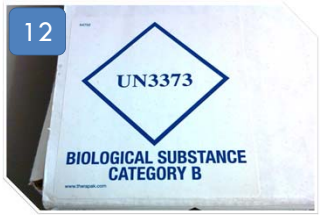
Place refrigerator packs in a single layer on top of the absorbent material.

Note: Blood tubes are to be shipped cold and not frozen.

Place the packaged specimens in the shipper. Use absorbent material or cushioning material to minimize shifting while box is in transit. Place additional refrigerator packs on top of samples.

Place the blood shipping manifest in a sealable plastic bag and put on top of the sample boxes inside the shipper. Keep your chain-of-custody documents for your files. Place lid on shipper.

Secure the shipper lid with filamentous shipping tape. Place your return address in the upper left-hand corner of the shipper top and put the ADHS Laboratory receiving address in the center.



Add the UN 3373 label and the words "Biological Substance Category B" on the front of the shipper. UN 3373 is the code identifying the shipper's contents as "Biological Substance, Category B."

Send shipper via FedEx or transport directly via courier, police or other delivery to:

Arizona Department of Health Services
Chemical Emergency Response
Attn: Jason Mihalic
250 N. 17th Ave
Phoenix, AZ 85007

For questions concerning this process or to request packaging and shipping materials, please contact:

Arizona Department of Health Services
Chemical Emergency Response
Attn: Jason Mihalic
250 N. 17th Ave
Phoenix, AZ 85007

Office: (602) 542-6120
After Hours: (480) 303-1676

LRN LABORATORY RESPONSE NETWORK

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION

01/2013

Arizona Department of Health Services

Instructions for Shipping Urine Specimens to Arizona Department of Health Services after a Chemical Exposure Event

Guidance in Accordance with Packaging Instructions International Air Transport Authority (IATA) 650 Biological Substance Category B

Use a gridded box or individually wrapped cups sealed with evidence tape to separate urine cups. Place absorbent material in the bottom of the box and insert the cups.

Use one continuous piece of evidence tape to seal the gridded box or Saf-T-Pak inner leak-proof polybag (or equivalent) containing wrapped urine cup(s). The individual making the seal must initial half on the evidence tape and half on the box or bag.

Wrap gridded box in an absorbent pad and tape to seal. Seal gridded wrapped box or alternative container inside a Saf-T-Pak clear inner, leak-proof polybag (or equivalent).

Place the sealed Saf-T-Pak inner leak-proof polybag (or equivalent) inside a white Tyvek outer envelope (or equivalent).

Note: If primary receptacles do not meet the internal pressure requirement of 95 kPa, use compliant secondary packaging materials.

Seal the opening of this envelope with a continuous piece of evidence tape. Write initials half on the evidence tape and half on the envelope.

Use polystyrene foam insulated, corrugated fiberboard shipper to ship boxes to ADHS. Place absorbent material in the bottom of the shipper.

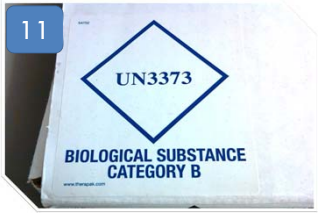
Place a layer of dry ice in the bottom of the shipper on top of the absorbent material. DO NOT use large chunks or flakes of dry ice.

Note: Urine cups are to be frozen.

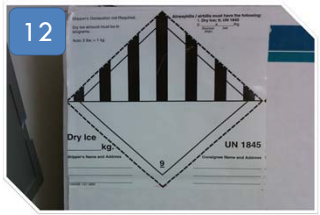
Place the packaged specimens in the shipper. Use absorbent material or cushioning material to minimize shifting while box is in transit. Place additional dry ice on top of samples.

Place the urine shipping manifest in a sealable plastic bag and put on top of the sample boxes inside the shipper. Keep your chain-of-custody documents for your files. Place lid on shipper.

Secure the shipper lid with filamentous shipping tape. Place your return address in the upper left-hand corner of the shipper top and put the ADHS Laboratory receiving address in the center.



Add the UN 3373 label and the words "Biological Substance Category B" on the front of the shipper. UN 3373 is the code identifying the shipper's contents as "Biological Substance, Category B."



Place a Class 9/UN 1845 label on front of shipper. This label for dry ice *MUST* indicate the weight of dry ice (in kg) within shipper and the proper name (dry ice or solid carbon dioxide).

Send shipper via FedEx or transport directly via courier, police or other delivery to:

Arizona Department of Health Services
Chemical Emergency Response
Attn: Jason Mihalic
250 N. 17th Ave
Phoenix, AZ 85007

For questions concerning this process or to request packaging and shipping materials, please contact:

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LRN LABORATORY RESPONSE NETWORK

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION

01/2013

Arizona Department of Health Services

BUREAU OF STATE LABORATORY SERVICES
250 N. 17th Avenue Phoenix, Arizona 85007
Chemistry Office: 602-542-1188 FAX: 602-364-0281
Victor Waddell, Ph.D., Bureau Chief

Clinical Sample Submission Form

For Department Use Only – ADHS Sample Number

SUBMITTER PLEASE FILL IN BLUE SECTIONS, DARK BLUE SECTIONS MUST BE COMPLETE

The sample matrix and test request MUST be the same for all samples listed with this form. Use another sample submission form for samples of different matrices or test requests. For multiple samples of the same matrix, submitting agency, and test request a Clinical Sample Continuation Form may be used. Clinical specimens submitted to the ADHS Laboratory will be maintained under chain-of-custody. Use separate sample log sheets for blood and urine specimens. Blood specimens should arrive on cold or frozen gel packs and be stored at 5 ± 3 °C; do not freeze. Urine specimens should arrive frozen, preferably on dry ice, and be stored at ≤ -20 °C.

Patient Information			**Submitting Agency Information**			
Last Name:	**First Name:**	**M.I.:**	**Agency Name:**			Agency ID Code:
DOB (MM/DD/YYYY):	**Age:**	**Sex: M F T**	Street Address:			
Patient ID:			City:	State:	Zip Code:	County:
Race: White ___ African American ___ Asian ___ American Indian/Alaska Native ___			**Contact Name:**			**Phone:**
Ethnicity: Hispanic yes ___ no ___			Ordering Provider/Physician:			

Laboratory Testing

Collection Date and Time:

Sample Matrix: Blood ____ Urine ____ Other _____

Urine Metals Testing:
- ☐ Arsenic
- ☐ Barium
- ☐ Beryllium
- ☐ Cadmium
- ☐ Lead
- ☐ Thallium
- ☐ Uranium
- ☐ All of the above

Blood Metals Testing:
- ☐ Cadmium
- ☐ Lead
- ☐ Mercury
- ☐ All of the above

Metabolic Toxins:
- ☐ Monochloroacetate (MCA)
- ☐ Monofluoroacetate (MFA)
- ☐ All of the above

OP Nerve Agent Testing:
- ☐ GB-Acid (sarin metabolite)
- ☐ GD-Acid (soman metabolite)
- ☐ GF-Acid (cyclohexylsarin metabolite)
- ☐ rVX-Acid (Russian VX metabolite)
- ☐ VX-Acid (VX metabolite)
- ☐ All of the above

Volatile Organic Compounds:
- ☐ 1,2-dichloroethane
- ☐ Benzene
- ☐ Carbon tetrachloride
- ☐ Chloroform
- ☐ Ethylbenzene
- ☐ m- and p-xylene
- ☐ o-xylene
- ☐ Styrene
- ☐ Tetrachloroethylene
- ☐ Toluene
- ☐ All of the above

Other Organic Testing:
- ☐ CVAA (2-chlorovinylarsonic acid/Lewisite metabolite)
- ☐ Cyanide
- ☐ HNPAA (Tetranitromethane metabolite)
- ☐ Tetramine
- ☐ Abrine (Abrin biomarker)
- ☐ Ricinine (Ricin biomarker)

Other Testing Requested:

Disposal/Transfer Date and Signature:

Total Number of Patient Specimens Submitted:	**Receiving Temperature (°C):**
***Sample Packaging/Container Integrity:** **Acceptable _____ Unacceptable _____**	Number of Blanks Submitted: Blood _____ Urine _____ Other _____
Comments:	

*If sample container or packaging is unacceptable take pictures of the affected area and make a note detailing the issue on the sample submission form.

Rev 8/2013

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Victor Waddell, Ph.D., Bureau Chief

Clinical Sample Continuation Form

For Department Use Only

SUBMITTER PLEASE FILL IN BLUE SECTIONS, DARK BLUE SECTIONS MUST BE COMPLETE

Last Name	**First Name**	**MI**	**Date of Birth (MM/DD/YYYY)**	**Age**	**Sex**	Patient ID	Race/ Ethnicity	**Collection Date and Time**	**Total # Patient Specimens**	**Total Sample Volume**	ADHS Sample Number	Disposal/ Transfer Date and Initials

Chain of Custody

Relinquished by: (Signature) (Print Name)	Date / Time	Received by: (Signature) (Print Name)	Date / Time