

Solano County District Attorney
Bureau of Forensic Services

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Physical Evidence Bulletin: Blood Toxicology

***Withdrawal, Handling, and Preservation of Blood Samples for Forensic
Toxicology Analysis***

CONTENTS

<i>Introduction</i>	3
1. Sampling, Collecting and Preserving	3
2. Packaging	3
3. Procedures For Obtaining Blood Samples	4
4. Post Mortem Samples	5
5. Analysis	5
6. Re-Examination	5
7. Evidence Disposition	5

INTRODUCTION

Blood is the preferred biological specimen for determining possible impairment. However, urine may be a more suitable specimen in certain situations or for certain drugs that are not well detected in blood due to low concentration or a short half-life. While the presence of a drug in a blood sample may suggest possible impairment, no opinions should be made based solely on a toxicology result. There is no well-established correlation between blood concentration and impairment for any drug other than alcohol. Blood toxicology results may be reported qualitatively or quantitatively. As with the handling of all biological specimens, certain precautions must be taken. Blood sample collection kits are provided by the laboratory.

1. SAMPLING, COLLECTING AND PRESERVING

The following summarizes the important considerations in the collection and preservation of blood samples for toxicology analysis:

- 1.1. Collect blood sample by venipuncture into vacuum tubes provided as soon as feasible after the alleged offense. The person collecting the sample must be a licensed physician, registered nurse, phlebotomist, or paramedic.
- 1.2. The area to be punctured must be cleaned with a nonvolatile and non-alcoholic disinfectant.
- 1.3. All fields on the labels provided must be filled out and placed on the tubes. It is important to carefully note the date and time on the sample labels and the sample envelope.
- 1.4. The tubes provided in the kit hold a volume of 10 mL, which is the preferred volume of blood sample for analysis. The recommended minimum quantity of blood required to perform toxicology analysis is 5 mL. If the recommended minimum is not reached, the small amount of blood collected may still be sufficient for toxicology analysis and should be forwarded to the laboratory.
- 1.5. The blood sample kits provided by the laboratory contain two blood tubes, one of which may be retained for referee analysis if requested by the subject.

2. PACKAGING

Maintenance of identity and integrity of the sample shall include the following procedures:

- 2.1. The label for the blood vial or tube shall contain at least the following information:

- 2.1.1. Full name of subject.
- 2.1.2. Initials of person drawing blood
- 2.1.3. Date and time of blood draw.
- 2.1.4. Initials of witnessing officer.

SUBJECT'S NAME _____
INITIALS OF PERSON DRAWING OF BLOOD/OR WITNESS TO URINE _____
DATE _____ TIME _____
WITNESSING OFFICER _____

SAMPLE TUBE LABEL

- 2.2. The blood tube(s) shall be sealed in the "BLOOD SAMPLE FOR ALCOHOL/DRUG ANALYSIS" envelope. The envelope should be filled out completely and include at least the following information:
 - 2.2.1. Full name of subject
 - 2.2.2. Submitting agency and agency case number

- 2.2.3. Geographical location where blood sample was drawn; i.e., name and/or address of hospital, jail or other facility.
- 2.2.4. Name of person drawing blood sample.
- 2.2.5. Date blood sample drawn.
- 2.2.6. Time blood sample drawn.
- 2.2.7. Signature of witnessing officer.
- 2.2.8. Chain of custody for all persons handling the evidence.
- 2.3. Other information such as driver's license, offense charged, anatomical location from which blood sample was drawn, or any special instructions may be added.
- 2.4. Blood kits including BLOOD SAMPLE FOR ALCOHOL/DRUG ANALYSIS envelope, security tape, two blood tubes, labels, protective blood tube containers and absorbent pad are available on request.

Laboratory Barcode Only

BLOOD SAMPLE FOR ALCOHOL/DRUG ANALYSIS

Alcohol
 Drugs (Amphetamines, Opiates, Cocaine)
 Other (Please list): _____

Arrest Location
 City Limits
 Unincorporated Area
 Name of City: _____

Breath results: _____ Device: PAS 7110 9510

Agency: _____
 Agency Case No.: _____
 Offense(s) #: _____
 Offense Date: _____

*If Offense is **NOT** 23152VC
 Vehicle Involved
 No Vehicle Involved

Subject's Name (Last, First, M) _____ Driver's License _____ Date of Birth _____

Person Drawing Blood _____ Location of Withdrawal _____ Date and Time Blood Drawn _____

Investigating Officer (Print) _____ Badge No. _____

Witnessing Officer Signature _____

CHAIN OF CUSTODY:

Received From:	Received By:	Rev. 2/20/12 Date:

FOR LABORATORY USE ONLY:
 Sealed _____ Unsealed _____ Other: _____ #Vials: _____

ENVELOPE FRONT

PLACE EVIDENCE SEAL HERE

Arresting Officer should seal with tape provided in kit and initial/date across the seal

INSTRUCTIONS TO THE PHYSICIAN, NURSE TECHNOLOGIST, BIOANALYST, PHLEBOTOMIST, OR PARAMEDIC DRAWING BLOOD FOR ALCOHOL DETERMINATION:

- Obtain the permission of the subject to draw blood by venipuncture.
- Cleanse the area to be punctured with a nonvolatile, non-alcoholic disinfectant (Benzalkonium chloride or Povidone-Iodine, etc.)
- Label the vials of blood (not the plastic safety container) with the labels provided giving: Full name of subject, Date, Time and name of individual drawing the blood.

INSTRUCTIONS TO POLICE OFFICERS ON COLLECTING BLOOD SAMPLES FOR ALCOHOL ANALYSIS:

- Submitting officer must witness consent of the subject and the collection of the blood sample.
- Initial the vial label.
- The information required on the outside of this envelope is to be completed in full by the officer.
- The blood samples are to be placed in this envelope and sealed with the enclosed seal.
- Transport or arrange to transport the envelope to the laboratory (Monday through Friday 8 A.M. to 5 P.M.). If mailing, place envelope in provided box and seal with second enclosed seal.

NOTE: This kit is not to be used for collecting blood samples for determining blood type or HIV status. The enclosed blood samples are for alcohol and drug analysis only.

ENVELOPE BACK



SECURITY TAPE

3. PROCEDURES FOR OBTAINING BLOOD SAMPLES

- 3.1. The requesting officer should witness the withdrawal of the sample to verify the source and ensure the integrity of the evidence.
- 3.2. The person drawing the blood (e.g. phlebotomist or other authorized person) shall fill out and initial the labels and affix them firmly to the blood tubes.

- 3.3. The samples shall then be given to the officer who, in turn, shall initial the label and place the samples in the prescribed envelope. The officer shall complete the required information on the envelope and securely seal with the included security tape.
- 3.4. Appropriate steps to ensure integrity of sample shall be taken:
 - 3.4.1. Once the envelope or other container is sealed, it must not be opened except for analysis in the laboratory.
 - 3.4.2. Each person having possession of the sealed envelope or container shall sign the space provided for recording the "Chain of Custody".

4. POST MORTEM SAMPLES

The laboratory does not analyze post mortem samples.

5. ANALYSIS

The laboratory will determine the best methods to employ in the analysis of submitted evidence items. Methods used will be approved and validated by the laboratory.

Samples will be screened for common drugs of abuse. Positive screening tests will generally be followed by confirmation analysis. Confirmation analysis will also be performed for the presence of requested drugs that are not included in the common drugs of abuse screen. Cases screening negative for all drugs will not be forwarded for further testing without a request by the agency or district attorney's office. Blood samples may be sent to another lab for nonroutine testing by request of the district attorney's office.

6. RE-EXAMINATION

The laboratory does not routinely examine materials that have been previously examined by another laboratory. Re-examination requests must be made in writing by the submitting agency with an endorsement by the prosecuting attorney having jurisdiction in the case.

7. EVIDENCE DISPOSITION

Blood samples submitted for analysis will generally be retained for at least one year; at which time it will be returned to the submitting agency.

The laboratory will not be responsible for destruction of evidence.

For further information on collection of blood for forensic toxicology analysis contact the laboratory directly.

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