



Physical Evidence Bulletin

Blood Forensic Alcohol

Uniform Standards For Withdrawal, Handling, and Preservation of Blood Samples for Forensic Alcohol Analysis

Purpose The Physical Evidence Bulletin (PEB) is a guideline intended for law enforcement agencies to follow in order to properly collect evidence for submission to BFS Laboratories. PEBs are not intended to be used in lieu of training in the collection of evidence.

Analysis The Bureau of Forensic Services (BFS) provides analytical support to law enforcement agencies through the identification and quantitation of ethanol in biological samples. Samples that contain less than 0.09% alcohol may be sent to the BFS Toxicology Laboratory for drug testing.

Overview In accordance with Vehicle Code Section 23158, the California Department of Highway Patrol, in cooperation with the Department of Public Health and the Department of Justice, has adopted uniform standards for withdrawal, handling and preservation of blood samples for forensic alcohol analysis. The standards are outlined in this document.

Preliminary Considerations Blood samples obtained from persons involved in traffic accidents or traffic violations shall be collected, handled and preserved as required by Sections 1219 and 1219.1 of Title 17 of the California Code of Regulations:

- Blood samples are collected by venipuncture from living individuals as soon as feasible after the alleged offense and only by persons authorized by Section 23158 of the California Vehicle Code (licensed physician and surgeon, registered nurse, licensed vocational nurse, duly licensed clinical laboratory scientist or clinical laboratory bioanalyst, a person who has been issued a "certified phlebotomy technician" certificate pursuant to Section 1246 of the Business and Professions Code, unlicensed laboratory personnel regulated pursuant to Sections 1242, 1242.5, and 1246 of the Business and Professions Code, or certified paramedic acting at the request of a peace officer). A certified paramedic shall not withdraw blood for this purpose unless authorized by his or her employer to do so.
- Alcohol or other volatile organic disinfectant shall not be used to clean the skin where a specimen is to be collected. Only aqueous benzalkonium chloride ("Zephiran"), povidone-iodine ("Betadine") or other approved aqueous disinfectants are used to

disinfect the skin before venipuncture. (Merthiolate and mercuric chloride are not used per a May 24, 2002 Department of Public Health Advisory because mercury containing compounds are now known to cause cancer or reproductive toxicity.)


- Sterile dry hypodermic needles and syringes or clean dry vacuum-type containers with sterile needles are to be used. No reusable equipment is to be used. The blood sample drawn is deposited into a clean, dry container (commercially prepared blood collection tube) which is closed with an inert stopper. Sample containers are not to be reused.
- Tubes for collecting blood should contain an anticoagulant (such as potassium oxalate) and a preservative (such as sodium fluoride).
- The DOJ supplied blood collection kits contain two blood tubes. To ensure an adequate amount of blood sample for alcohol and toxicology (drugs) analyses, please assure that both blood tubes are used in the collection and are filled completely. The collection tube should be mixed after collection by gently inverting at least eight times.
- The MINIMUM quantity of blood required to perform duplicate determinations by the laboratory and still provide sufficient quantity for referee analysis is 3 mL (approximately one teaspoon).
- DOJ laboratories performed quality assurance and non-interference testing on the following tube type:
 - VACUTAINER® Grey Stopper 10 mL, containing potassium oxalate, 20 mg and sodium fluoride, 100 mg.

Note: DOJ personnel can provide corroborative testimony as to the contents and non-interference of the listed container. Samples received in other containers may be analyzed but may be subject to a legal challenge.

Labeling and packaging of blood tubes

The sample should include the following information to best maintain the identity of the sample (if a DOJ label is not available, the information should be written on the blood tube):

- Full name of subject.
- Date blood drawn.
- Initials of person drawing blood.
- Initials of witnessing officer.

Lynn Penny Co. 1-800-255-6499 	CALIFORNIA DEPT. OF JUSTICE
	SUBJECT'S NAME _____
	INITIALS OF PERSON _____ DRAWING OF BLOOD/OR WITNESS TO URINE
	DATE _____ TIME _____
	WITNESSING OFFICER _____ RFS-40

Packaging blood collection tubes

- The envelope should be filled out as completely as possible and should include:
 - Full name of subject.
 - Subject driver’s license number.
 - Submitting agency and agency case number.
 - Geographical location where blood sample was drawn; i.e., name and/or address of hospital, jail or other facility.
 - Name of person drawing blood sample.
 - Date and time blood sample drawn.
 - Signature of witnessing officer.
 - Felony or misdemeanor designation
 - A form for establishing the chain of possession for all persons handling the evidence.
- Other information such as agency or laboratory number, offense charged, anatomical location from which blood sample was drawn, or any special instructions may be added.

Note: Blood alcohol mailing kits including blood collection tubes, envelopes and labels are available on request.

**Sample
Collection
Procedure**

The following guidelines for obtaining blood samples for forensic alcohol analysis should be followed:

1. The requesting officer should witness the withdrawal of the samples. When the officer witnesses the actual withdrawal of the blood, it may preclude the person drawing the blood from appearing as a witness at the time of the trial.
 2. The collection tubes should be mixed after collection by gently inverting at least eight times.
 3. The person drawing the blood (e.g., nurse, doctor, or paramedic) should fill out and initial the label and affix it firmly to the blood collection tube. The officer shall initial the label and place the sample in the prescribed evidence envelope. The officer shall immediately complete the required information on the envelope, and seal it securely.
 4. Once the envelope is sealed, it must not be opened except for analysis in the laboratory.
 5. Each person having possession of the sealed envelope shall sign their name in the space provided for recording the “chain of possession”.
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**Post-mortem
blood samples**

BFS does not analyze post-mortem blood samples for ethanol content. You may wish to consult with the medical examiner for the collection and analysis of these types of samples.

**For further
information
and
additional
resources**

Please contact your regional BFS laboratory with any further questions that you may have.

For a list of regional laboratories go to:
https://oag.ca.gov/sites/all/files/agweb/pdfs/bfs/bfs_brochure.pdf

If drugs are suspected please refer to Physical Evidence Bulletin #8 (Toxicology) for specific requirements of submission of samples to the Toxicology laboratory. To locate the most current Physical Evidence Bulletins please go to:
<https://oag.ca.gov/bfs/peb>
